Phase I 1 of 3

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FINAL
PHASE II SUBSURFACE INVESTIGATION
DOUGLAS AIRCRAFT COMPANY
C-6 FACILITY, PARCEL A
TORRANCE, CALIFORNIA

FOR
McDONNELL DOUGLAS REALTY COMPANY
5 JUNE 1996

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1.0 EXECUTIVE SUMMARY

McDonnell Douglas Realty Company retained Kennedy/Jenks Consultants to perform a Phase II subsurface investigation of the northern section of the Douglas Aircraft Company C-6 Facility in Torrance, California. The investigation was confined to the area identified by McDonnell Douglas Realty Company as Parcel A. Specific areas for the investigation were identified in an earlier preliminary site assessment as potential areas of environmental interest.

Samples were collected from depths of up to 35 feet below ground surface from 56 borings using hollow-stem auger, hand auger, and direct push techniques. Upper interval samples from each boring were generally analyzed for Total Recoverable Petroleum Hydrocarbons or Total Petroleum Hydrocarbons as diesel, and volatile organic compounds by a mobile laboratory located onsite. Deeper interval samples were analyzed for the same parameters where upper interval samples had detectable concentrations of chemicals of interest. In general, samples were also analyzed for California Code of Regulations metals in an offsite laboratory and select samples were also tested for polychlorinated biphenyls.

Soils encountered during the investigation were predominantly silts with varying amounts of clay and sand, and with clay and sand occasionally interbedded. No groundwater water was encountered during the drilling of this field program.

The results of the Phase II investigation of Parcel A identified only a limited number of areas of environmental interest. One location in Building 37 was identified as impacted by petroleum hydrocarbons in the upper 10 feet. Four locations were identified as impacted by low concentrations of chlorinated volatile organic compounds to the total tested depth of 25 feet bgs.

Sampling at one location in Building 37 indicated a limited area impacted by polychlorinated biphenyls.

2.0 INTRODUCTION

This report summarizes the results of a Phase II subsurface investigation of a section, Parcel A, of the Douglas Aircraft Company (DAC) C-6 facility (C-6 facility) located at 19503 South Normandie Avenue in Torrance, California. The investigation was conducted by Kennedy/Jenks Consultants (Kennedy/Jenks) on behalf of McDonnell Douglas Realty Company (MDRC) in March and April 1996. The location of the C-6 facility is shown in Figure 1. A layout of the C-6 facility and an outline of Parcel A is shown in Figure 2.

2.1 Purpose and Objective

MDRC is considering development of Parcel A in the northern section of the C-6 facility. For the purpose of evaluating areas of potential environmental interest related to the development, environmental investigation work was conducted. In December 1995, MDRC retained Kennedy/Jenks to conduct a Phase I Environmental Site Assessment (PESA) of this parcel. During the performance of the PESA, Kennedy/Jenks identified 17 areas of potential environmental interest related to past or present operations within Parcel A.

The objective of this Phase II investigation was to evaluate the possibility that releases of hazardous substances could have impacted surrounding soils at the areas of potential environmental interest. The Phase II investigation included subsurface soil sampling, monitoring for soil vapors during sampling, logging of soil types, and laboratory analysis for chemicals of interest anticipated from the PESA.

3.0 SITE DESCRIPTION

The following sections describe Parcel A, the C-6 facility history, and the regional geologic setting.

3.1 Parcel A Description

Parcel A is comprised of the northern portion of the C-6 facility located at 19503 South Normandie Avenue in Torrance, California (Figure 2). The topography of the facility is essentially flat with an elevation of approximately 50 feet above mean sea level (msl). Structures included in Parcel A include Buildings 29, 33, 34, 36, 37, 43, 57, 61, and 67, the northernmost tip of Building 1, the northern section of the employee parking lot, and the gravel yard to the east of Building 37 (Figure 2). Current operations at Parcel A consist of storage and warehousing.

Parcel A is bordered by West 190th Street on the north, South Normandie Avenue on the east, the remainder of the C-6 facility on the south, and a former metals plant (Industrial Light Metals) to the west. A railroad easement is located between the fence on the east side of Parcel A and Normandie Avenue. The surrounding properties to the north and the east consist mainly of light industrial and manufacturing facilities and office buildings. The Industrial Light Metals plant is presently being demolished. Activities at the C-6 facility to the south consist of storage and warehousing.

Manufacturing operations on Parcel A have been inactive for approximately the last 4 years. Most of the manufacturing equipment has been removed from the C-6 facility.

3.2 Parcel A History

Aerial photos indicate that the C-6 facility was farmland prior to the 1940s. The C-6 facility was first developed by the Defense Plant Corporation (DPC) in 1941 as part of an aluminum reduction plant. The plant was operated by the Aluminum Company of America until late 1944

(CDM, 1991). In 1948, the property was acquired by the Columbia Steel Company (CSC). In March 1952, the US Navy purchased the property from CSC and established DAC as the contractor and operator of the facility for the manufacturing of aircraft and aircraft parts. DAC purchased the C-6 facility from the Navy in 1970 (CDM, 1991).

Structures on Parcel A were constructed and renovated at various times. Parts of Buildings 29, 33, 34, 36, 37, and 43 were part of the original construction of the DPC facility in 1941. Buildings 29 and 37 were renovated and enlarged to the north in the late 1960s and early 1970s. Buildings 57 and 61 were constructed in the early 1950s. Building 67 was constructed in the 1960s.

3.3 Regional Geology and Hydrogeology

Regionally, the C-6 facility is located in the Torrance Plain. Subsurface sediments in this region consists mainly of Recent alluvial deposits of gravel, sand, clay, and silt to a depth of approximately 175 feet below ground surface (bgs).

According to Department of Water Resources (DWR, 1961), the C-6 facility is located in the Torrance Plain and underlain by the Bellflower Aquitard in the upper approximately 100 feet bgs and by the Gage Aquifer, a water-bearing zone within the Lakewood Formation, from approximately 110 to 160 feet bgs. The Lakewood Formation extends to a depth of approximately 175 feet bgs. Beneath the Lakewood Formation is the San Pedro Formation, which extends to a depth of approximately 1,000 feet bgs. Water-bearing zones in the San Pedro Formation consist of the Lynwood Aquifer from approximately 300 to 390 feet bgs and the Silverado Aquifer from approximately 400 to 670 feet bgs (DWR, 1961). The Silverado Aquifer is considered a source of drinking water.

3.4 Local Geology and Hydrogeology

In the Phase I investigation, Kennedy/Jenks reviewed boring logs from demolition plans of Building 67 dated 2 February 1968 and a Phase II subsurface soils investigation performed in 1991 (CDM, 1991). The reports showed that the C-6 facility is underlain by fine-to medium-

grained sand, silty sand, and clayey sand. Borings from both investigations were advanced to a depth of approximately 30 feet below ground surface (bgs).

Subsurface soils encountered at locations drilled during this Phase II investigation, were similar in classification. Drilling to a maximum depth of 36 feet bgs penetrated an interbedded unit comprised of fine-grained sediments. The predominant soil type to this depth is silt. The silt units vary in thin intervals to clayey silt, silty clay, and sandy silt. Clay and silty sand were also found interbedded in the silt unit. Boring logs indicate that the subsurface sediments are sandier to the west (west of Building 37). Soils are generally a light brown to olive brown, with occasional gray silts noted. Though coloring was fairly consistent throughout the drilled areas, the silt varied from soft to hard.

Soils encountered were predominantly dry with occasional damp to moist intervals. No groundwater was encountered during the drilling of this field program. According to recent groundwater monitoring performed by Kennedy/Jenks for DAC (Kennedy/Jenks, 1996), local groundwater elevations range from approximately 15.5 feet to 16 feet below msl (approximately 65 feet bgs). Recent and historical data suggest that the groundwater flow direction is to the southeast.

4.0 SAMPLING AND ANALYTICAL METHODS

To accomplish the Phase II objectives and document proper protocol for the work, a summary workplan was prepared and reviewed with field staff prior to initiating field work. Following the workplan, drilling and sampling methods were conducted in accordance with Kennedy/Jenks Standard Operating Guides. The Guides incorporate industry professional standards for routine sampling, and are designed to meet general regulatory agency requirements and result in litigation quality work. A site health and safety plan was also prepared and reviewed with field staff prior to conducting field activities. Field safety meetings were conducted with Kennedy/Jenks and subcontract staff at the beginning of each day to review physical and chemical hazards, and emergency procedures related to the work.

The field work was conducted in the period from 25 March through 8 April 1996. Soil sampling locations are illustrated in Figures 3 through 7. The specific sampling techniques and sample analytical program are detailed in Table 1. Analytical work was conducted by California certified laboratories using standard EPA test methods and appropriate state-required modifications. Two mobile laboratories were employed; one for petroleum hydrocarbon analysis and one for volatile organic compound (VOC) analysis, and a stationary laboratory was contracted for metals and polychlorinated biphenyl (PCB) analysis.

4.1 Drilling and Sampling Methods

Field activities were initiated with selection of sampling locations, geophysical screening for certain underground obstructions, and coring of concrete paving to access subsurface soils. Several planned drilling locations inside Building 37 were moved due to the difficulty in penetrating the concrete bottoms of backfilled machine pits (Pits J, K, M, N, and O). At these locations, remaining open machine-pit areas were filled and previously filled areas were smoothed using a backhoe to allow access by the drill rig. Borings were then advanced adjacent to the apparent former sump locations, based on a comparison to shapes of open machine pits and visible ladder apparatus. Additional concrete coring was conducted during the drilling program at locations where drill bit penetration was refused by heavy concrete reinforcement.

Sampling was accomplished using direct-push, hollow-stem auger, and hand-auger methods. The push technology uses a truck-mounted or portable hydraulically driven sampler or core barrel that allows penetration and standard sampling without the generation of drill cuttings. The sampler for the push tool was fitted with 1.5-inch diameter, 6-inch long brass sleeves. The method was used at locations where access allowed. No residuals were generated using this equipment. The 2-inch diameter holes were backfilled with hydrated bentonite chips. A total of 30 borings placed throughout Parcel A were sampled using this equipment (Table 1).

A mobile B-53 hollow-stem auger rig was used to drill and sample at the backfilled machine pits in Building 37. The rig was equipped with a concrete bit to drill through concrete at the bottom of each pit. Due to the heavy reinforcement of the pit bottoms however, penetration was refused and borings were advanced adjacent to the apparent sump locations outside of the pits, as previously described. Sampling was conducted using a standard split-spoon sampler fitted with 2-inch diameter, 6-inch long brass sleeves. Cuttings from these 6.75-inch diameter borings were drummed and the holes were backfilled to grade with cement-bentonite grout. A total of 11 borings were drilled and sampled with this hollow-stem auger rig, all in Building 37 (Table 1).

A limited access hollow-stem auger rig was used to drill and sample in several open machine-pits in Building 37. This small rig was lowered into each accessible pit using a forklift. Concrete bottoms of up to 5-feet thick were cored by a contractor prior to drilling at these locations. Sampling was conducted using a standard split-spoon sampler fitted with 2-inch diameter, 6-inch long brass sleeves. Cuttings from these 6-inch diameter borings were drummed and the holes were filled to grade with cement-bentonite grout. A total of 11 borings were advanced using the limited-access rig, all in Building 37 (Table 1).

Where access did not allow use of mechanical drilling equipment, test holes were advanced with a hand auger. Samples were collected with a hand-operated drive sampler fitted with one 6-inch long brass sleeve. A total of three shallow holes were sampled using this equipment in two areas of Building 67. At a fourth location in Building 67 (Sample Site 7B), the hand auger

could not be advanced due to subsurface obstructions. The hand-auger holes were backfilled with bentonite chips.

At each of the deeper test locations, the soil types encountered were logged using the Unified Soil Classification System (USCS). Boring logs are included in Appendix A.

Drummed cuttings were labeled, inventoried, and stored at the C-6 facility for later disposal by DAC.

4.2 Sample Handling

Soil samples were collected in brass sleeves that were covered with Teflon™ sheets, capped, labeled, and bagged. For each sampling interval, three sleeves were collected for laboratory analysis, one for each of the two mobile laboratories on location and one for the offsite laboratory. Samples were identified with the boring number and depth using a predetermined nomenclature. For Building 37, where most of the drilling was conducted, an example identification code is:

3K-1-5

3K- for sample site 3 in machine-pit K -
1- at the north end of the pit
5 at the depth interval beginning at 5 feet bgs and extending to 6.5 feet bgs.

Samples were placed in ice-cooled insulated containers upon collection and transported to the onsite mobile laboratory at the completion of a boring or transferred to the offsite laboratory by courier at the end of each day. Sample custody was maintained by the field sampler or field supervisor until transfer to one of the laboratories. Sample custody is documented on standard chain-of-custody forms included in Appendix B.

3 Sample Analytical Program

ıalytical methods were selected for potential chemicals of interests based on the PESA indings. Analytical methods selected and the number of samples analyzed for each boring e detailed in Table 1 and summarized below.

- Samples collected at locations with potential volatile organic compound (VOC) releases were analyzed in an onsite mobile laboratory by EPA Method 8010 and EPA Method 8020.

- Samples collected at locations with potential petroleum hydrocarbon releases were analyzed in an onsite mobile laboratory by EPA Method 418.1 for Total Recoverable Petroleum Hydrocarbons (TRPH).

- Samples collected at a location with potential diesel fuel releases were analyzed in an onsite mobile laboratory by modified EPA Method 8015 for Total Petroleum Hydrocarbons as diesel (TPHd).

- Samples collected at locations with potential heavy metals releases were analyzed in an offsite laboratory by EPA Method 6010 for California Code of Regulations-listed metals (CCR metals).

- Samples collected at locations with potential polychlorinated biphenyl (PCB) releases were analyzed in an offsite laboratory by EPA Method 8080 for PCBs.

Samples collected at a location with potential cyanide releases were analyzed in an offsite laboratory by EPA Method 335.3 for total cyanides.

onsite mobile laboratory operated by Transglobal Environmental Geochemistry (TEG) was ained for sample analysis by EPA Method 418.1 for TRPH. TEG also maintained a ɔnd onsite mobile laboratory for sample analysis by EPA Method 8010/8020 for VOCs and

modified EPA Method 8015 for TPHd. Separate onsite laboratories were required because of potential interferences caused by analytical reagents used for EPA Method 418.1.

All samples shipped off-site for analysis were transported to Quanterra Environmental Services in Santa Ana, California. Quanterra performed the following analyses on samples, as required:

- EPA Method 335.3 for total cyanides;
- EPA Method 6010 for CCR metals; and
- EPA Method 8080 for PCBs.

5.0 SAMPLE LOCATIONS AND INVESTIGATIVE FINDINGS

The following sections describe the 17 individual areas of environmental interest identified during the PESA, and the investigative and analytical methods performed to evaluate each area. At most sample sites, borings were advanced to 25 feet bgs, and soil samples were collected on five-foot intervals. The first two samples collected were analyzed by selected laboratory methods based on the chemicals of potential interest. Subsequent laboratory analysis was performed on the sample collected at the next lower interval if chemicals of interest were detected.

Boring locations and sample sites are indicated on Figures 3 through 7. The distribution of detected concentrations of chemicals of interest are also shown on these figures. Table 2 presents a summary of detected organic chemicals of potential interest for the investigation. The table shows all chemicals detected in one or more samples, and the results of all tested samples from each boring where any chemical detections were reported. Complete analytical data are presented in the laboratory reports in Appendix C. Table C.1 at the beginning of Appendix C provides a table of contents for laboratory reports by specific sample location and test method. Table 3 presents the range of CCR metals detected in the Parcel A investigation, published common ranges of these metals in surface soils of the Western United States, and CCR Title 22 Soluble and Total Threshold Limit Concentration values.

5.1 Sample Site Number 1 - Former Clarifiers in Building 34

During the performance of the PESA, DAC personnel stated that a concrete pad on the north side of Building 34 was the former location of clarifiers. The area was sampled to evaluate the potential for a release of hazardous materials from the clarifiers to have impacted surrounding soils.

Samples were collected on 5-foot intervals from one boring advanced to 25 feet bgs by the direct-push sampling system (Figure 5). The samples collected from 5 and 10 feet bgs were

analyzed for VOCs by EPA Method 8010/8020, for TRPH by EPA Method 418.1, and for CCR metals by EPA Method 6010.

Laboratory results from analyzed samples collected at sample site number 1 are as follows:

- TRPH was not detected at or above the detection limit of 10 milligrams per kilogram (mg/Kg).
- VOCs were not detected at or above the detection limit of 5 micrograms per kilogram (Tg/Kg).
- CCR metal concentrations were within expected ranges and below regulatory limits.

5.2 Sample Site Number 2 - Clarifiers on the east side of Building 37

Two clarifiers were observed on the east side of Building 37 during the PESA. Sampling was conducted to evaluate the potential for a release of hazardous materials to have impacted surrounding soils.

One boring was advanced adjacent to each of the clarifiers (Figure 4) to 25 feet bgs by the direct-push sampling system. Samples were collected on 5-foot intervals. The samples collected from 5 and 10 feet bgs were analyzed for TRPH by EPA Method 418.1, for CCR metals by EPA Method 6010, and for VOCs by EPA Method 8010/8020. The samples collected from 15, 20, and 25 feet bgs at location 2A were analyzed for VOCs.

Laboratory results from seven analyzed samples collected at sample site number 2 are as follows:

- TRPH was not detected at or above the detection limit of 10 mg/Kg.

- VOC analysis of the five samples from location 2A showed 1,1-Dichloroethane (1,1-DCA) in sample 2A-5 at a concentration of 7.5 µg/Kg. Trichloroethene was detected in samples 2A-10 (5.0 µg/Kg), 2A-15 (8.1 µg/Kg), and 2A-25 (5.4 µg/Kg). VOCs were not detected in the two samples from location 2B at or above the detection limit of 5 µg/Kg.

- CCR metal concentrations were within expected ranges and below regulatory limits.

5.3 Sample Site Number 3 - Machine Pits in Building 37

Fifteen machine pits in Building 37 were identified in the PESA as potential environmental interests due to large quantities of machine and hydraulic oils that were continuously stored in sumps within the pits during manufacturing operations. For the purposes of this environmental investigation, each pit was labeled with a letter and referenced by that letter during soil sampling activities. The locations of the pits and boring locations are illustrated in Figure 4.

Because the machine pits were in varying conditions and sizes, several different methods were used to sample soils from beneath each pit. Select samples from the machine pit areas were analyzed for VOCs by EPA Method 8010/8020, TRPH by EPA Method 418.1, CCR metals by EPA Method 6010, and PCBs by EPA Method 8080.

The following paragraphs detail the sampling procedures for each of the different pit conditions.

Machine Pits A, D, F, I, and L

Machine pits A, D, F, I, and L had all machinery and equipment removed from them. Pits F, I, and L measure approximately 120 feet long, 30 feet wide, and 6 feet deep. Pits A and D are approximately 40 feet long, 30 feet wide, and 6 feet deep. Sample locations were selected that would avoid embedded structures within the concrete slab (as indicated on historical

drawings provided by DAC) while attempting to stay as close to collection sumps and expansion joints as possible.

One boring was advanced in pit D. Two borings were advanced in pits A, I, and L. Three borings were drilled in pit F. A concrete contractor was retained to core the concrete floor in the bottom of each pit. Concrete floor thickness ranged from two to five feet. A hollow-stem auger rig was then lowered with a forklift into the pits to perform soil sampling. Samples were collected on 5-foot intervals to 25 feet below the bottom of the concrete slab.

One of the collection sumps in pit D was adjacent to the aisleway, allowing use of the direct-push sampling system at this location.

Laboratory results from analyzed samples collected from the first two intervals at pits A, D, F, I, and L are as follows:

- TRPH was not detected at or above the detection limit of 10 mg/Kg.
- VOCs detected in boring 3F-2 in samples collected from a drilled depth of 5.5 feet (11 feet bgs) included benzene (5.0 µg/Kg), ethylbenzene (58.0 µg/Kg), toluene (18.6 µg/Kg), and xylenes (15.0 µg/Kg). VOCs were not detected in the other analyzed samples above the detection limits of 5 µg/Kg.
- PCBs were not detected at or above the detection limit of 33 µg/Kg.
- CCR metal concentrations were within expected ranges and below regulatory limits.

Machine Pits B and C.

Pits B and C are each approximately 60 feet long, 20 feet wide, and 6 feet deep. Remaining equipment and machinery in pits B and C prevented sampling through the bottom of these pits. Pits B and C each had two collection sumps. Because the collection sumps for these pits were

adjacent to the west wall of Building 37, access to surrounding soils was gained by angle-boring to a depth of 36 feet bgs from the outside of the building with the direct-push sampling system. However, electrical equipment located outside of the building prevented access to the sample location for the northern sump in pit B; samples were not collected in the vicinity of this sump. Two borings were sampled at pit C and one boring was sampled at pit B.

Laboratory results from analyzed samples collected from the first two intervals at pits B and C are as follows:

- TRPH was not detected at or above the detection limit of 10 mg/Kg.
- VOCs were not detected at or above the detection limits of 5 µg/Kg.
- PCBs were not detected at or above the detection limits of 33 µg/Kg.
- CCR metal concentrations were within expected ranges and below regulatory limits.

Machine Pit E

Pit E consists of a floor trench drainage system that flows to two collection sumps. Both of the sumps contained a liquid that appeared to be hydraulic oil or cutting lubricant. Two borings were sampled on 5-foot intervals to 25 feet bgs.

Laboratory results from analyzed samples collected from the first two intervals at pit E are as follows:

- TRPH was not detected at or above the detection limit of 10 mg/Kg.
- VOCs were not detected at or above the detection limits of 5 µg/Kg.
- PCBs were not detected at or above the detection limit of 33 µg/Kg.

- CCR metal concentrations were within expected ranges and below regulatory limits.

Machine Pits G and H

Machine Pits G and H were previously backfilled with soil and capped with concrete. The pits measure approximately 25 feet long and 25 feet wide. The depth of the pits is not known. One boring was advanced to 25 feet bgs with the direct-push sampling system at a location adjacent to each pit.

Laboratory results from analyzed samples collected from the first two intervals at pits G and H are as follows:

- TRPH was detected in the sample collected from boring 3G at 5 feet bgs at 5,700 mg/Kg. TRPH was not detected at or above the detection limit of 10 mg/Kg in the 10-foot sample from this boring or in the other analyzed samples.
- VOCs were not detected at or above the detection limits of 5 µg/Kg.
- PCBs were not detected at or above the detection limit of 33 µg/Kg.
- CCR metal concentrations were within expected ranges and below regulatory limits.

Machine Pits J, K, M, N, and O

Machine pits J, K, M, N, and O were previously backfilled with soil. Pits K and J were also capped with a concrete slab. Each of these pits measured approximately 120 feet long and 30 feet wide. Based on an examination of several of the collection sumps that were not

completely backfilled, the collection sumps were believed to have been approximately 10 feet deep.

Two or three borings were advanced in each pit adjacent to the collection sumps. A concrete contractor was retained to core the concrete floor adjacent to each collection sump. Soil borings were advanced with the hollow-stem auger rig. Samples were collected on 5-foot intervals from 10 to 25 feet bgs. The samples from 10- and 15-foot intervals from all borings were analyzed. Samples were also analyzed from 20 and 25 feet bgs at boring 3K-2, 30-1, and 30-2.

Laboratory results from analyzed samples collected from pits J, K, M, N, and O are as follows:

- TRPH was detected in the 10-foot samples from borings 3J-2 (23 mg/Kg), 3N-1 (157 mg/Kg), and 3N-2 (134 mg/Kg), but not in the 15-foot samples from these borings. TRPH was not detected at or above the detection limit of 10 mg/Kg in the other analyzed samples.

- VOCs were detected in several of the analyzed samples in the form of 1,1-dichloroethene (1,1-DCE) and TCE; no other VOCs were detected.

    - 1,1 DCE was detected in 3K-2-10 (8.0 µg/Kg) and 3O-1-10 (5.0 µg/Kg). The 10-, 15-, 20-, and 25-foot samples from 3O-2 contained 1,1-DCE in concentrations ranging from 20.7 µg/Kg (25 feet) to 76.6 µg/Kg (20 feet).

    - TCE was detected in the 10-, 15-, 20-, and 25-foot samples from 3K-2 in concentrations ranging from 8.4 µg/Kg (20 feet) to 97.0 µg/Kg (10 feet). The 10-, 20-, and 25-foot samples from 3O-1 contained TCE in concentrations ranging from 7.2 µg/Kg (10 feet) to 13.5 µg/Kg (20 feet). TCE was also detected in the 10-, 15-, 20-, and 25-foot samples from 3O-2 in concentrations ranging from 81 µg/Kg (15 feet) to 242 µg/Kg (20 feet).

- PCBs were detected in samples from boring 3J-2 at 10 feet bgs (9,800 µg/Kg), and 15 feet bgs (130 µg/Kg), and in boring 3O-2 at 10 feet bgs (36 µg/Kg). PCBs were not detected at or above the detection limit of 33 µg/Kg in the other analyzed samples. For sample 3M-2-10, PCBs were reported as not detected at or above the detection limit of 67 µg/Kg.

- CCR metal concentrations in the analyzed samples were within expected ranges and below regulatory limits.

5.4 Sample Site Number 4 – Machine Shop in Building 37

During the PESA, a parts degreaser and collection sump were observed in a machine shop in the eastern section of Building 37. DAC records indicated that previous chemicals used at this location included the solvent 1,1,1-trichloroethane.

One boring was advanced with the limited access rig to 25 feet bgs at a location adjacent to the solvent tank sump (Figure 4). Samples were collected on 5-foot intervals. The samples collected at 5 and 10 feet bgs were analyzed for VOCs by EPA Method 8010/8020.

Laboratory results from analyzed samples collected at sample site number 4 are as follows:

- VOCs were not detected at or above the detection limits of 5 µg/Kg.

5 Sample Site Number 5 – Elevators in Building 61

Two hydraulic lift elevators in Building 61 were identified in the PESA as potential environmental interests due to associated underground hydraulic equipment.

One angle-boring was advanced beneath each lift with the direct push sample system to approximately 35 feet bgs (Figure 5). One sample was collected from each boring at a drilled depth of 35 feet. The samples were analyzed for TRPH by EPA Method 418.1.

Laboratory results from analyzed samples collected at sample site number 5 are as follows:

- TRPH was not detected at or above the detection limit of 10 mg/Kg.

5.6 Sample Site Number 6 – Former Sump at Building 61

Historical drawings reviewed during the PESA identified a former collection sump near the exterior northeast corner of Building 61. DAC facility records did not indicate when the sump was removed or the condition of the sump upon removal.

A metal fence presently crosses over the former location of the collection sump. One angle-boring was advanced by the direct-push sampling system from outside of the fence (Figure 5). Samples were collected on 5-foot intervals to 25 feet bgs. The samples collected at 5 and 10 feet bgs were analyzed for VOCs by EPA Method 8010/8020 and CCR metals by EPA Method 6010.

Laboratory results from analyzed samples collected at sample site number 6 are as follows:

- VOCs were not detected at or above the detection limits of 5 µg/Kg.

- CCR metal concentrations in the analyzed samples were within expected ranges and below regulatory limits.

5.7 Sample Site Number 7 -- Sumps in Building 67

A collection sump, a secondary containment area for a metal plating process line, and a containment pit for a parts degreaser were observed in a room in the central western portion of Building 67 during the PESA. Some of the equipment, including the process tanks and degreasing tank, are still in place.

Four locations were selected and cored for subsurface sampling. The portable direct-push sampling system advanced borings to 25 feet bgs on the east side of the process tanks (boring 7C) and adjacent to the collection sump (boring 7A) (Figure 6). Boring 7D was advanced to 35 feet bgs between the process tanks and the degreaser containment pit. Hand-auger boring 7B was attempted on the west side of the process tanks, but a utility line was encountered approximately 6 inches beneath the concrete slab, and the boring was abandoned.

Samples from each of the borings were collected on 5-foot intervals. The samples collected at 5 and 10 feet bgs from borings 7A and 7C, and at 10, 15, and 20 feet bgs from boring 7D were analyzed for VOCs by EPA Method 8010/8020 and for CCR metals by EPA Method 6010.

Laboratory results from analyzed samples collected at sample site number 7 are as follows:

- 1,1-DCE was detected in sample 7C-5 at 16 µg/Kg. Sample 7D-10 contained concentrations of 1,1-DCA (8.3 µg/Kg) and 1,1,2-trichloroethane (1,1,2-TCA) (19 µg/Kg). 1,1,2-TCA was also detected in samples 7D-15 (7.9 µg/Kg) and 7D-20 (18 µg/Kg). Sample 7D-20 also contained 1,2-DCA (8.7 µg/Kg). VOCs were not detected at or above the detection limits of 5 µg/Kg in the other analyzed samples.

- CCR metal concentrations in the analyzed samples were within expected ranges and below regulatory limits. Hexavalent chromium, for which published data on natural concentrations in soil are not available, was detected in sample 7A-10 at a concentration of 1.0 mg/Kg, below the regulatory criteria for hazardous waste.

5.8 Sample Site Number 8 -- Clarifier at Building 67

During the PESA, one clarifier was observed near the northwest exterior corner of Building 67.

One boring was advanced adjacent to the clarifier to 25 feet bgs with the direct-push sampling system. Samples were collected on 5-foot intervals (Figure 6). The samples collected at 5 and 10 feet bgs were analyzed for VOCs by EPA Method 8010/8020, for TRPH by EPA Method 418.1, and for CCR metals by EPA Method 6010.

Laboratory results from analyzed samples collected at sample site number 8 are as follows:

- TRPH was not detected at or above the detection limit of 10 mg/Kg.
- VOCs were not detected at or above the detection limits of 5 µg/Kg.
- CCR metal concentrations in the analyzed samples were within expected ranges and below regulatory limits.

5.9 Sample Site Number 9 -- Former Containment Pit at Building 67

During the PESA, a former containment pit was observed at the south end of Building 67. All equipment had been removed from the containment pit, and the containment pit had been steam cleaned. According to DAC personnel, the pit formerly housed an electric discharge machine, which used high voltage electricity and dielectric oils to remove machine burrs from aircraft parts.

One soil boring was advanced by hand-auger techniques to 10 feet below the bottom of a collection sump in the northwest corner of the pit (Figure 6). Soil samples were collected from

5 and 10 feet bgs and analyzed for TRPH by EPA Method 418.1 and for VOCs by EPA Method 8010/8020.

Laboratory results from analyzed samples collected at sample site number 9 are as follows:

- TRPH was not detected at or above the detection limit of 10 mg/Kg.
- VOCs detected in sample 9-10 included 1,1,2-TCA (6.4 µg/Kg) and TCE (10.8 µg/Kg). VOCs were not detected at or above the detection limits of 5 µg/Kg in the 5-foot sample.

5.10 Sample Site Number 10 – Former Dark Room in Building 67

A former dark room was observed in the central eastern portion of Building 67 during the PESA. The dark room processed x-ray film.

Two soil borings were advanced to 5 feet bgs by hand auger techniques (Figure 6). Boring locations were selected near subsurface drainage junctions that were apparent from surface settlement. Soil samples were collected at 2 and 5 feet bgs. The samples were analyzed for CCR metals by EPA Method 6010.

Laboratory results from analyzed samples collected at sample site number 10 are as follows:

- CCR metal concentrations in the analyzed samples were within expected ranges and below regulatory limits.

5.11 Sample Site Number 11 – Floor Drains in Building 67

Dark-stained floor drains and surrounding stained floor areas were observed during the PESA in a former air compressor room in the northeast section of Building 67.

Two borings were advanced to 25 feet bgs with the direct-push sampling system at locations adjacent to the floor drains (Figure 6). Samples were collected on 5-foot intervals. The samples collected at 5 and 10 feet bgs were analyzed for TRPH by EPA Method 418.1.

Laboratory results from analyzed samples collected at sample site number 11 are as follows:

- TRPH was not detected at or above the detection limit of 10 mg/Kg.

5.12 Sample Site Number 12 – Former Fuel Transfer Station at Building 44

Historical maps reviewed during the PESA indicated the presence of a former railcar fuel transfer station to the southwest of Building 44. The historical drawings also indicated the presence of underground fuel transfer lines leading from Building 44 to Building 41.

Two soil borings (12A and 12B) were advanced with the direct-push sampling system to 25 feet bgs near the approximate locations of the transfer station and the underground pipeline (Figure 4). Soil samples were collected on 5-foot intervals. The samples collected from 5, 10 and 15 feet bgs from boring 12A and all five samples from boring 12B were analyzed for TPHd by modified EPA Method 8015.

Laboratory results from analyzed samples collected from borings 12A and 12B at sample site number 12 are as follows:

- The TPHd concentration in sample 12B-15 was 200 mg/Kg. TPHd concentrations in the other analyzed samples from above and below this interval in boring 12B were below the detection limit of 10 mg/Kg. TPHd concentrations in analyzed samples from boring 12A were below the detection limit of 10 mg/Kg.

The containment area around the above ground storage tanks was identified as an area of potential environmental interest. One soil boring (12C) was advanced to 25 feet bgs at a

location within the containment area of the southern aboveground tank. The samples collected at 5 and 10 feet bgs were analyzed for TRPH by EPA Method 418.1 and all five samples were analyzed for VOCs by EPA Method 8010/8020.

Laboratory results from analyzed samples collected from boring 12C at sample site number 12 are as follows:

- TRPH was not detected at or above the detection limit of 10 mg/Kg.

- TCE concentrations were detected in samples 12C-5 (7.8 µg/Kg), 12C-10 (16.2 µg/Kg), 12C-15 (69.2 µg/Kg), and 12C-20 (24.8 µg/Kg). TCE was not detected at or above the detection limit of 5 µg/Kg in the 25-foot sample. Other VOCs were not detected at or above the detection limits of 5 µg/Kg in the analyzed samples.

5.13 Sample Site Number 13 – Former USTs in Building 29

Historical drawings reviewed during the PESA indicated that two underground storage tanks (USTs) were formerly located in an area of Building 29 that was not developed. Sample locations were selected inside of the present structure that corresponded to the tank locations shown on the drawings.

One boring was advanced to 25 feet bgs at each former tank location with the direct-push sampling system (Figure 3). The samples collected at 5 and 10 feet bgs from boring 13A and all five interval samples from boring 13B were analyzed for TRPH by EPA Method 418.1.

Laboratory results from analyzed samples collected at sample site number 13 are as follows:

- TRPH was not detected at or above the detection limit of 10 mg/Kg.

5.14 Sample Site Number 14 – Clarifier in Building 29

During the PESA, a clarifier with its covers welded shut was observed in a paint booth area in the central eastern section of Building 29.

One soil boring was advanced adjacent to the clarifier to 25 feet bgs with the direct-push sampling system (Figure 3). The samples collected at 5 and 10 feet were analyzed for VOCs by EPA Method 8010/8020, TRPH by EPA Method 418.1, and for CCR metals by EPA Method 6010.

Laboratory results from analyzed samples collected at sample site number 14 are as follows:

- TRPH was not detected at or above the detection limit of 10 mg/Kg.
- VOCs were not detected at or above the detection limits of 5 µg/Kg.
- CCR metal concentrations in the analyzed samples were within expected ranges and below regulatory limits.

5.15 Sample Site Number 15 – Former Hazardous Waste Accumulation Area at Building 29

A concrete pad to the east of the northeast corner of Building 29 was formerly used as a hazardous waste accumulation area. C-6 facility records showed that limited environmental sampling had indicated that soils beneath the concrete pad may have been impacted by TCE.

One soil boring was advanced to 25 feet bgs with the direct-push sampling system (Figure 3). Samples were collected on 5-foot intervals. The samples collected at 5 and 10 feet bgs were analyzed for TRPH by EPA Method 418.1 and for CCR metals by EPA Method 6010. All five interval samples were analyzed for VOCs by EPA Method 8010/8020.

Laboratory results from analyzed samples collected at sample site number 15 are as follows:

- TRPH was not detected at or above the detection limit of 10 mg/Kg.

- VOCs detected in 5-, 10-, 20-, and 25-foot samples include 1,1-DCA, 1,1-DCE, PCE, 1,1,1-TCA, 1,1,2-TCA and TCE. VOCs were not detected at or above the detection limits of 5 µg/Kg in 15-15. The detected concentrations of these compounds ranged from 5.4 µg/Kg to 202 µg/Kg. The highest concentrations of 1,1-DCA (60 µg/Kg), 1,1-DCE (18.6 µg/Kg), PCE (202 µg/Kg), 1,1,1-TCA (13.5 µg/Kg), and TCE (200 µg/Kg) were found in the bottom sample from the boring (25-foot interval).

  1,1-DCA concentrations reported in four samples ranged from 18.4 µg/Kg (15-20) to 60 µg/Kg (15-25).

  1,1-DCE was detected in 15-25 at 18.6 µg/Kg.

  PCE was detected in four samples in concentrations ranging from 56.8 µg/Kg (15-10) to 202.0 µg/Kg (15-25).

  1,1,1-TCA was detected in 15-10 at 7.4 µg/Kg, and 15-25 at 13.5 µg/Kg.

  1,1,2-TCA concentrations reported in four samples ranged from 5.4 µg/Kg (15-5) to 24.5 µg/Kg (15-10).

  TCE concentrations reported in four samples ranged from 17.8 µg/Kg (15-10) to 200.0 µg/Kg (15-25).

- CCR metals concentrations in the analyzed samples were within expected ranges and below regulatory limits.

5.16 Sample Site Number 16 – Former Cyanide Solution Storage Area in Building 33

Historical drawings reviewed during the PESA indicated that Building 33 was a former cyanide solution storage building.

One boring was advanced to 25 feet bgs with the direct-push sampling system inside of the building (Figure 5). The samples collected at 5 and 10 feet were analyzed for total cyanides by EPA Method 335.3, and for VOCs by EPA Method 8010/8020.

Laboratory results from analyzed samples collected at sample site number 16 are as follows:

- Total cyanides in the analyzed samples were below the detection limit of 0.5 mg/Kg.
- VOCs were not detected at or above the detection limit of 5 µg/Kg.

5.17 Sample Site Number 17 – Clarifier at Building 36

One clarifier was observed during the PESA on the north exterior of Building 36.

One boring was advanced adjacent to the clarifier to 25 feet bgs with the direct-push sampling system (Figure 4). The samples collected at 5, 10, 15, 20, and 25 feet bgs were analyzed for VOCs by EPA Method 8010/8020, and for TRPH by EPA Method 418.1. Samples collected at 5 and 10 feet bgs were also analyzed for CCR Metals by EPA Method 6010.

Laboratory results from analyzed samples collected at site number 17 are as follows:

- Sample 17-10 contained concentrations of TRPH at 179 mg/Kg. TRPH was not detected at or above the detection limits of 10 mg/Kg in the other analyzed samples from 5, 15, 20 and 25 feet bgs.

- VOCs detected in sample 17-10 included 1,1-DCE (30 µg/Kg) and TCE (95 µg/Kg). TCE was also detected in samples 17-15 (7.1 µg/Kg), 17-20 (10.3 µg/Kg), and 17-25 (272 µg/Kg). Sample 17-25 also contained 1,1-DCE (162 µg/Kg) and cis-1,2-DCE (19.2 µg/Kg). Other VOCs were not detected at or above the detection limits of 5 µg/Kg in the analyzed samples. No VOCs were detected in the sample from 5 feet bgs.

- CCR metal concentrations in the analyzed samples from 5- and 10-foot intervals were within expected ranges and below regulatory limits.

6.0 CONCLUSIONS

Seventeen sampling locations in areas of environmental interest in and around eight buildings in Parcel A of the DAC C-6 Facility were investigated. The results of the Phase II Investigation identified only a limited number of areas of continued environmental interest.

TRPH was detected at a maximum concentration of 5,700 mg/Kg at 5 feet bgs at machine pit G in the north end of Building 37 (sample site 3G). TRPH was neither detected in the sample analyzed from 10 feet bgs at this location, nor detected in the closest samples to the south from machine pit H. These data suggest a small area of limited lateral and vertical extent of TRPH impacted soils that the contractor should be aware of during demolition.

TPHd was detected at a maximum concentration of 200 mg/Kg at 15 feet bgs north of Building 44 near the location of the former fuel transfer line (sample site 12-B). TPHd was not detected in the samples from 5, 10, 20, and 25 feet bgs in this location, suggesting a limited vertical extent of impacted soils.

VOCs were detected at the former waste accumulation area north of Building 29 (sample site 15) to a total depth of 25 feet bgs. The maximum concentration of individual VOCs was 60.0 µg/Kg 1,1-DCA (25 feet bgs), 202.0 µg/Kg PCE (25 feet bgs), 18.6 µg/Kg 1,1-DCE (25 feet bgs), 13.5 µg/Kg 1,1,1-TCA (25 feet bgs), 24.5 µg/Kg 1,1,2-TCA (10 feet bgs) and 200.0 µg/Kg TCE (25 feet bgs). This area should be monitored during demolition activities and possibly investigated further to determine the vertical extent of the detected VOCs.

VOCs were detected at the clarifier adjacent to Building 36 at 25 feet bgs (sample site 17). The maximum concentration of individual VOCs, primarily found at 25 feet bgs, was 1,1-DCE (162 µg/Kg), cis-1,2-DCE (19.2 µg/Kg) and TCE (272 mg/Kg). Of these compounds, only TCE had detections at shallower sampling levels. 1,2-DCA was found in the 10 foot sample at 30 µg/Kg. This area is immediately north of an area of previously detected VOCs and may reflect the northwestern extent of the area which originates outside of Parcel A.

VOCs were detected beneath the southernmost machine pits (pits O and K) in Building 37 (sample sites 3k and 30). The maximum concentration of individual VOCs beneath pit O was 1,1-DCE (76.6 µg/Kg) at 20 feet bgs and TCE (242.0 µg/Kg) at 20 feet bgs, and beneath pit K was 1,1-DCE (8.0 µg/Kg) at 10 feet bgs and TCE (97.0 µg/Kg) at 10 feet bgs. Both pits also had detections of TCE at 25 feet bgs. These data suggest that vapors from the VOC impacted area at Building 36 may extend beneath the southern portion of Building 37. This area should be monitored during demolition activities.

At machine pit J in Building 37 (sample site 3J), PCBs were found at 10 feet bgs at a concentrations of 9,800 µg/Kg. PCB concentrations decreased with the depth in the succeeding sample decreased to 130 µg/Kg. The Total Threshold Limit Concentration value (CCR Title 22) defines a California hazardous waste. For PCBs in soil, the TTLC value is 10,000 µg/Kg. These data suggest an area of limited vertical and lateral extent which should be monitored during demolition activities.

At machine pit F in Building 37 (sample site 3F), BTEX concentrations in a sample collected from 5 feet bgs ranged from 5.0 µg/Kg to 58.6 µg/Kg. BTEX concentrations were not detected at or above the detection limits in the 10 foot sample, suggesting that impact by BTEX does not extend to 10 feet bgs.

7.0 REFERENCES

California Department of Water Resources, June 1961, Planned Utilization of the Groundwater Basins of the Coastal Plain of Los Angeles County, CDWR Bulletin No. 104.

Lindsay, Willard J., 1979, Chemical Equilibria in Soils: New York, John Wiley & Sons.

Shacklette, H.T., and Boerngen, J.G., 1984, U.S. Geological Survey Professional Paper 1270.

Camp Dresser & McKee Inc., 1991, Phase I Environmental Assessment of the Douglas Aircraft C-6 Faciltiy, Parking Lot and Tool Storage Yard, Los Angeles, California.

TABLE 1
SAMPLING AND ANALYTICAL PROGRAM[a]

Douglas Aircraft Company C-6 Facility
Torrance, California
May, 1996
KJ 954019.01

Sample Site	Boring Number	Collection Method	Analysis						
			418.1[b]	8010/8020[c]	8015-M[d]	8010/8020	6010[e]	8080[f]	335.3[g]
			Mobile Laboratory			Standard Laboratory			
1	1	Direct-Push	2	2			2		
2	2A	Direct-Push	2	5			2		
	2B	Direct-Push	2	2			2		
3	3A-1	Lim.-Acc. Rig	2	2			2	2	
	3A-2	Lim.-Acc. Rig	2	2			2	2	
	3B-2	Direct-Push	2	2			2	2	
	3C-1	Direct-Push	2	2			2	2	
	3C-2	Direct-Push	2	2			2	2	
	3D-1	Lim.-Acc. Rig	2	2			2	2	
	3D-2	Direct-Push	2	2			2	2	
	3E-1	Direct-Push	2	2			2	2	
	3E-2	Direct-Push	2	2			2	2	
	3F-1	Lim.-Acc. Rig	2	2			2	2	
	3F-2	Lim.-Acc. Rig	2	2			2	2	
	3F-3	Lim.-Acc. Rig	2	2			2	2	
	3G	Direct-Push	2	2			2	2	
	3H	Direct-Push	2	2			2	2	
	3I-1	Lim.-Acc. Rig	2			2	2	2	
	3I-2	Lim.-Acc. Rig	2			2	2	2	
	3J-1	B-53 Rig	2	2			2	2	
	3J-2	B-53 Rig	2			2	2	2	
	3K-1	B-53 Rig	2	2		2	2	2	
	3K-2	B-53 Rig	4	4			2	2	
	3L-1	Lim.-Acc. Rig	2			2	2	2	
	3L-2	Lim.-Acc. Rig	2			2	2	2	
	3M-1	B-53 Rig	2	2			2	2	
	3M-2	B-53 Rig	2	2			2	2	
	3M-3	B-53 Rig	2	2			2	2	

Table Key

Lim.-Acc. Rig - Limited Access Rig

Table Notes:

a) Table presents the number of samples analyzed for a given method from each sampling site. A complete list of compounds tested and detection limits are shown in analytical results reports included in Appendix C.
Samples were collected between 25 March and 8 April 1996.

b) Total Recoverable Petroleum Hydrocarbons (TRPH) analyzed per EPA Method 418.1

c) Volatile Organic Compounds (VOCs) analyzed per EPA Method 8010/8020.

d) Total Petroleum Hydrocarbons as Diesel (TPH-d) analyzed per EPA Method 8015-M.

e) Metals analyzed per EPA Method 6010.

f) Polychlorinated biphenyls (PCBs) analyzed per EPA Method 8080.

g) Cyanide analyzed per EPA Method 335.5.

TABLE 1
SAMPLING AND ANALYTICAL PROGRAM[a]

Douglas Aircraft Company C-6 Facility
Torrance, California
May, 1996
K/J 954019.01

Sample Site	Boring Number	Collection Method	Analysis						
			418.1[b]	8010/8020[c]	8015-M[d]	8010/8020	6010[e]	8080[f]	335.3[g]
			Mobile Laboratory			Standard Laboratory			
3	3N-1	B-53 Rig	2			2	2	2	
	3N-2	B-53 Rig	2	2			2	2	
	3O-1	B-53 Rig	4	4			2	2	
	3O-2	B-53 Rig	4	4			2	2	
4	4	Lim.-Acc. Rig		2			2	2	
5	5A	Direct-Push	1						
	5B	Direct-Push	1						
6	6	Direct-Push		2			2	2	
7	7A	Direct-Push		2			2		
	7B	Hand Auger		0			0		
	7C	Direct-Push		2			2		
	7D	Direct-Push		3			3		
8	8	Direct-Push	2	2			2		
9	9	Hand Auger	2	2					
10	10A	Hand Auger					2		
	10B	Hand Auger					2		
11	11A	Direct-Push	2						
	11B	Direct-Push	2						
12	12A	Direct-Push			3				
	12B	Direct-Push			5				
	12C	Direct-Push	2	5					
13	13A	Direct-Push	2						
	13B	Direct-Push	5						
14	14	Direct-Push	2	2			2		
15	15	Direct-Push	2	5			2		
16	16	Direct-Push		2					2
17	17	Direct-Push	5	5			2		
Totals	56		98	95	8	14	87	62	2

Table Key

Lim.-Acc. Rig - Limited Access Rig

Table Notes:

a) Table presents the number of samples analyzed for a given method from each sampling site A complete list of compounds tested and detection limits are shown in analytical results reports included in Appendix C.
Samples were collected between 25 March and 8 April 1996.

b) Total Recoverable Petroleum Hydrocarbons (TRPH) analyzed per EPA Method 418.1

c) Volatile Organic Compounds (VOCs) analyzed per EPA Method 8010/8020.

d) Total Petroleum Hydrocarbons as Diesel (TPH-d) analyzed per EPA Method 8015-M.

e) Metals analyzed per EPA Method 6010

f) Polychlorinated biphenyls (PCBs) analyzed per EPA Method 8080.

g) Cyanide analyzed per EPA Method 335.5.

TABLE 2
SOIL SAMPLE ANALYTICAL RESULTS - DETECTED ORGANIC COMPOUNDS[a]

Douglas Aircraft Company C-6 Facility
Torrance, California
May 1996
K/J 954019.01

Boring Location	Sample I.D.	Sample Depth Ft. bgs[b]	TRPH (mg/Kg)[c]	TPHd (mg/Kg)[d]	Benzene (µg/Kg)[e]	Ethyl Benzene (µg/Kg)	Toluene (µg/Kg)	Xylenes (µg/Kg)	1,1-DCA (µg/Kg)	1,2-DCA (µg/Kg)	1,1-DCE (µg/Kg)	Cis-1,2-DCE (µg/Kg)	PCE (µg/Kg)	1,1,1-TCA (µg/Kg)	1,1,2-TCA (µg/Kg)	TCE (µg/Kg)	PCB[f] Aroclor 1248 (µg/Kg)
Method Detection Limit			10	10	5	5	5	5	5	5	5	5	5	5	5	5	33
Bldg. 29	15-5	5							21.0				69.9		5.4	21.2	
	15-10	10							23.7				56.8	7.4	24.5	17.8	
	15-15	15															
	15-20	20							18.4				101.8		14.8	23.7	
	15-25	25							60.0		18.6		202.0	13.5	11.5	200.0	
Bldg. 36	17-5	5															
	17-10	10	179								30					95	
	17-10 dup	10	168														
	17-15	15														7.1	
	17-20	20														10.3	
	17-25	25									162	19.2				272	
Bldg. 37	2A-5	5							7.5								
	2A-10	10														5.0	
	2A-15	15														8.1	
	2A-20	20															
	2A-25	25														5.4	

Table Key:

Result did not exceed Method Detection Limit.

Not analyzed for the given parameter.

mg/Kg - milligrams per kilogram
µg/Kg - micrograms per kilogram
DCA - Dichloroethane
DCE - Dichloroethene
TCA - Trichloroethane
TCE - Trichloroethene
PCE - Tetrachloroethene
PCB - Polychlorinated biphenyls

Table Notes:

a) Table presents data for compounds detected one or more times and includes all samples analyzed for a boring where compounds were detected. A complete list of compounds tested and detection limits are shown in analytical results reports included in Appendix C. Samples were collected between 25 March and 8 April 1996.

b) Below Ground Surface

c) Total Recoverable Petroleum Hydrocarbons (TRPH) analyzed per EPA Test Method 418.1.

d) Total Petroleum Hydrocarbons as Diesel (TPHd) analyzed per EPA Method 8015M.

e) Volatile Organic Compounds (VOCs) analyzed per EPA Method 8010/8020.

f) Polychlorinated biphenyls (PCBs) analyzed per EPA Method 8080. Only Aroclor 1248 was detected.

g) Boring and sampling was conducted from the bottom of an open machine pit. Sample depths are adjusted 6 feet to show depth below the floor of the building, consistent with other samples.

TABLE 2
SOIL SAMPLE ANALYTICAL RESULTS - DETECTED ORGANIC COMPOUNDS[a]

Douglas Aircraft Company C-6 Facility
Torrance, California
May 1996
K/J 954019.01

Boring Location	Sample I.D.	Sample Depth Ft. bgs[b]	TRPH (mg/Kg)[c]	TPHd (mg/Kg)[d]	Benzene (µg/Kg)[e]	Ethyl Benzene (µg/Kg)	Toluene (µg/Kg)	Xylenes (µg/Kg)	1,1-DCA (µg/Kg)	1,2-DCA (µg/Kg)	1,1-DCE (µg/Kg)	Cis-1,2-DCE (µg/Kg)	PCE (µg/Kg)	1,1,1-TCA (µg/Kg)	1,1,2-TCA (µg/Kg)	TCE (µg/Kg)	PCB[f] Aroclor 1248 (µg/Kg)
Method Detection Limit			10	10	5	5	5	5	5	5	5	5	5	5	5	5	33
Bldg. 37	3F-2-5	11[g]			5.0	58.0	18.6	15.0									
	3F-2-10	16[g]															
	3G-5	5	5,700														
	3G-10	10															
	3J-2-10	10	23														9,800
	3J-2-15	15															130
	3K-2-10	10									8.0					97.0	
	3K-2-10 dup	10															
	3K-2-15	15														15.3	
	3K-2-20	20														8.4	
	3K-2-25	25														38.2	
	3N-1-10	10	157														
	3N-1-10 dup	10	145														
	3N-1-15	15															
	3N-2-10	10	134														
	3N-2-10 dup	10	121														
	3N-2-15	15															

Table Key:

Result did not exceed Method Detection Limit.
Not analyzed for the given parameter.
mg/Kg - milligrams per kilogram
µg/Kg - micrograms per kilogram
DCA - Dichloroethane
DCE - Dichloroethene
TCA - Trichloroethane
TCE - Trichloroethene
PCE - Tetrachloroethene
PCB - Polychlorinated biphenyls

Table Notes:

a) Table presents data for compounds detected one or more times and includes all samples analyzed for a boring where compounds were detected. A complete list of compounds tested and detection limits are shown in analytical results reports included in Appendix C. Samples were collected between 25 March and 8 April 1996.
b) Below Ground Surface
c) Total Recoverable Petroleum Hydrocarbons (TRPH) analyzed per EPA Test Method 418.1.
d) Total Petroleum Hydrocarbons as Diesel (TPHd) analyzed per EPA Method 8015M.
e) Volatile Organic Compounds (VOCs) analyzed per EPA Method 8010/8020.
f) Polychlorinated biphenyls (PCBs) analyzed per EPA Method 8080. Only Aroclor 1248 was detected.
g) Boring and sampling was conducted from the bottom of an open machine pit. Sample depths are adjusted 6 feet to show depth below the floor of the building, consistent with other samples.

TABLE 2
SOIL SAMPLE ANALYTICAL RESULTS - DETECTED ORGANIC COMPOUNDS[a]

Douglas Aircraft Company C-6 Facility
Torrance, California
May 1996
K/J 954019.01

Boring Location	Sample I.D.	Sample Depth Ft. bgs[b]	TRPH (mg/Kg)[c]	TPHd (mg/Kg)[d]	Benzene (µg/Kg)[e]	Ethyl Benzene (µg/Kg)	Toluene (µg/Kg)	Xylenes (µg/Kg)	1,1-DCA (µg/Kg)	1,2-DCA (µg/Kg)	1,1-DCE (µg/Kg)	Cis-1,2-DCE (µg/Kg)	PCE (µg/Kg)	1,1,1-TCA (µg/Kg)	1,1,2-TCA (µg/Kg)	TCE (µg/Kg)	PCB[f] Aroclor 1248 (µg/Kg)
Method Detection Limit			10	10	5	5	5	5	5	5	5	5	5	5	5	5	33
Bldg. 37	30-1-10	10									5.0					7.2	
	30-1-15	15															
	30-1-20	20														13.5	
	30-1-25	25														10.0	
	30-2-10	10									51.0					121.0	36
	30-2-15	15									34.6					81.0	
	30-2-20	20									76.6					242.0	
	30-2-25	25									20.7					98.7	
Bldg. 43	12-B-5	5															
	12-B-10	10															
	12-B-15	15		200													
	12-B-20	20															
	12-B-25	25															
	12-C-5	5	40													7.8	
	12-C-10	10	40													16.2	
	12-C-10 dup	10	40														
	12-C-15	15														69.2	
	12-C-20	20														24.8	
	12-C-25	25															

Table Key:

Result did not exceed Method Detection Limit.

Not analyzed for the given parameter.

mg/Kg - milligrams per kilogram
µg/Kg - micrograms per kilogram
DCA - Dichloroethane
DCE - Dichloroethene
TCA - Trichloroethane
TCE - Trichloroethene
PCE - Tetrachloroethene
PCB - Polychlorinated biphenyls

Table Notes:

a) Table presents data for compounds detected one or more times and includes all samples analyzed for a boring where compounds were detected. A complete list of compounds tested and detection limits are shown in analytical results reports included in Appendix C. Samples were collected between 25 March and 8 April 1996.

b) Below Ground Surface

c) Total Recoverable Petroleum Hydrocarbons (TRPH) analyzed per EPA Test Method 418.1.

d) Total Petroleum Hydrocarbons as Diesel (TPHd) analyzed per EPA Method 8015M.

e) Volatile Organic Compounds (VOCs) analyzed per EPA Method 8010/8020.

f) Polychlorinated biphenyls (PCBs) analyzed per EPA Method 8080. Only Aroclor 1248 was detected.

g) Boring and sampling was conducted from the bottom of an open machine pit. Sample depths are adjusted 6 feet to show depth below the floor of the building, consistent with other samples.

TABLE 2
SOIL SAMPLE ANALYTICAL RESULTS - DETECTED ORGANIC COMPOUNDS[a]

Douglas Aircraft Company C-6 Facility
Torrance, California
May 1996
K/J 954019.01

Boring Location	Sample I.D.	Sample Depth Ft. bgs[b]	TRPH (mg/Kg)[c]	TPHd (mg/Kg)[d]	Benzene (µg/Kg)[e]	Ethyl Benzene (µg/Kg)	Toluene (µg/Kg)	Xylenes (µg/Kg)	1,1-DCA (µg/Kg)	1,2-DCA (µg/Kg)	1,1-DCE (µg/Kg)	Cis-1,2-DCE (µg/Kg)	PCE (µg/Kg)	1,1,1-TCA (µg/Kg)	1,1,2-TCA (µg/Kg)	TCE (µg/Kg)	PCB[f] Aroclor 1248 (µg/Kg)
Method Detection Limit			10	10	5	5	5	5	5	5	5	6	5	5	5	5	33
Bldg. 67	7C-5	5									16						
	7C-10	10															
	7D-10	10							8.3						19		
	7D-15	15													7.9		
	7D-20	20								8.7					18		
	9-5	5															
	9-10	10													6.4	10.8	

Table Key:

Result did not exceed Method Detection Limit.
Not analyzed for the given parameter.
mg/Kg - milligrams per kilogram
µg/Kg - micrograms per kilogram
DCA - Dichloroethane
DCE - Dichloroethene
TCA - Trichloroethane
TCE - Trichloroethene
PCE - Tetrachloroethene
PCB - Polychlorinated biphenyls

Table Notes:

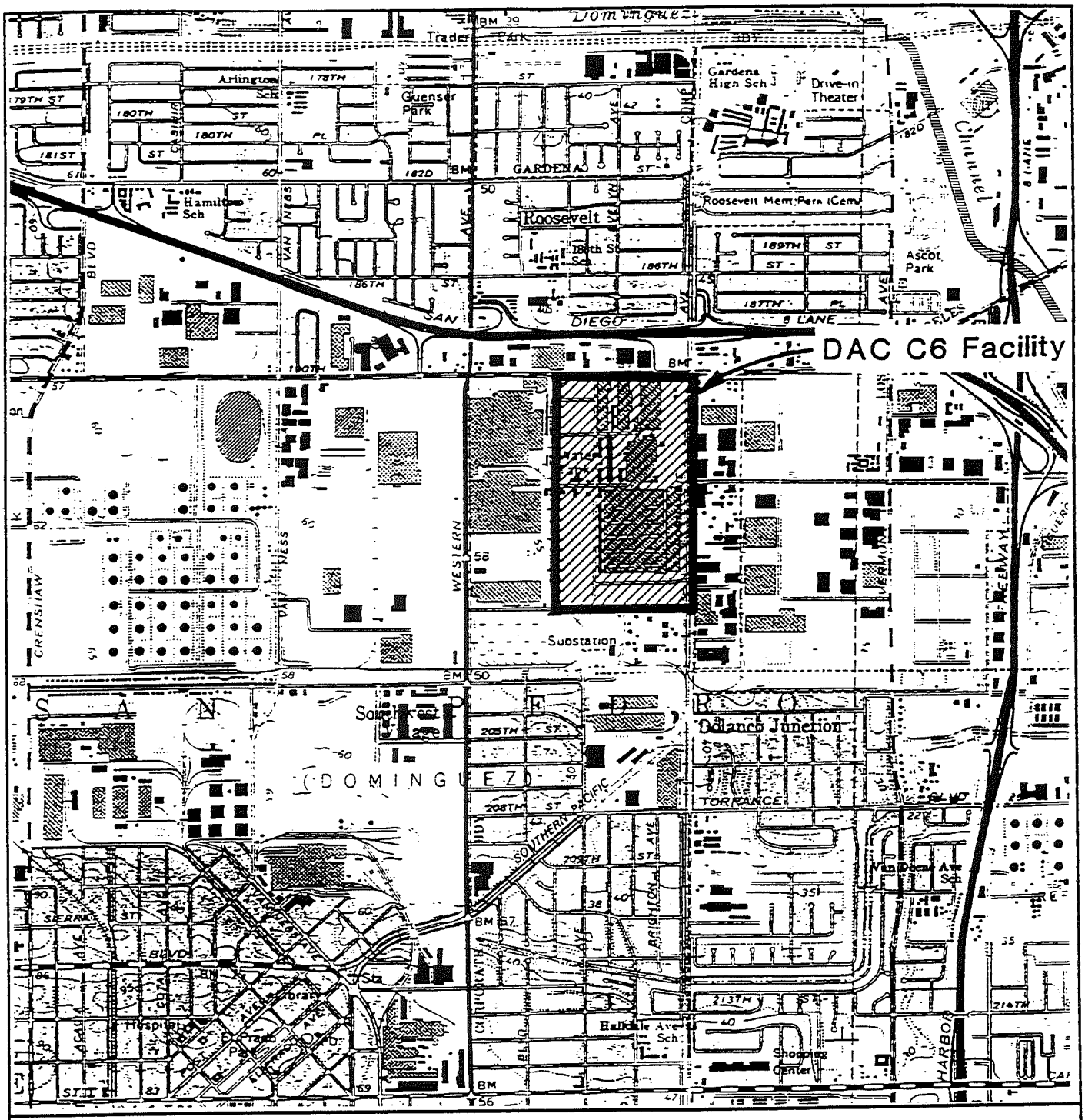
a) Table presents data for compounds detected one or more times and includes all samples analyzed for a boring where compounds were detected. A complete list of compounds tested and detection limits are shown in analytical results reports included in Appendix C. Samples were collected between 25 March and 8 April 1996.
b) Below Ground Surface
c) Total Recoverable Petroleum Hydrocarbons (TRPH) analyzed per EPA Test Method 418.1.
d) Total Petroleum Hydrocarbons as Diesel (TPHd) analyzed per EPA Method 8015M.
e) Volatile Organic Compounds (VOCs) analyzed per EPA Method 8010/8020.
f) Polychlorinated biphenyls (PCBs) analyzed per EPA Method 8080. Only Aroclor 1248 was detected.
g) Boring and sampling was conducted from the bottom of an open machine pit. Sample depths are adjusted 6 feet to show depth below the floor of the building, consistent with other samples.

TABLE 3
COMPARISON OF SITE SOIL INORGANIC CHEMICAL CONCENTRATIONS
WITH COMMON SOIL CONCENTRATIONS
AND STATE THRESHOLD LIMIT VALUES

Douglas Aircraft Company C-6 Facility
Torrance, California
May 1996
K/J 954019.01

TESTED INORGANIC CHEMICAL	CONCENTRATION RANGE (mg/Kg)	COMMON RANGE IN SOIL(a) (ppm)	CCR TTLC(b) Value (mg/Kg)	CCR STLC(c) Value (mg/L)
ANTIMONY	<1.0	<1 - 2.6[d]	500	15
ARSENIC	<10 - 17.5	1 - 50	500	5
BARIUM	49.2 - 290	100 - 3,000	10,000	100
BERYLLIUM	<0.50 - 1.2	0.1 - 40	75	0 .75
CADMIUM	<0.20 - 2.5	0.01 - 0.7	100	1 .0
TOTAL CHROMIUM	18.0 - 40.7	1 - 1,000	2,500	560
HEXAVALENT CHROMIUM	<0.10 - 1.1	Not available	500	5
COBALT	5.5 - 48.1	1 - 40	8,000	80
COPPER	14.0 - 171	2 - 100	2,500	25
LEAD	3.9 - 19.8	2 - 200	1,000	5
MERCURY	<0.040 - 0.094	<0.01 - 4.6[d]	20	0 .2
MOLYBDENUM	<4.0	<3 - 7[d]	3,500	350
NICKEL	11.4 - 70.1	5 - 500	2,000	20
SELENIUM	<0.50 - 0.90	0.1 - 2	100	1
SILVER	<0.50 - 3.4	0.01 - 5	500	5
THALLIUM	<200	2.4 - 31[d]	700	7
VANADIUM	24.7 - 75.5	20 - 500	2,400	24
ZINC	45.8 - 184	10 - 300	5,000	250

mg/Kg - milligrams per Kilogram
mg/L - milligrams per Liter
ppm - parts per million
a) Chemical Equilibria in Soils. Willard L. Lindsay, John L. Wiley & Sons, NY 1979.
b) CCR, Title 22, Total Threshold Limit Concentration (TTLC) value.
Value set to define a California hazardous waste based on the total concentration.
c) California Code of Regulations, (CCR), Title 22, Soluble Threshold Limit Concentration (STLC) value.
Value set to define a California hazardous waste based on leachate concentration.
d) Element Concentrations in Soils and Other Surficial Materials of the Conterminous United States.
H.T. Shacklette and J. G. Boerngen, USGS Professional Paper 1270, U.S. Government Printing Office,
Washington, 1984.



Base Map: U.S.G.S. 7.5 Minute Topographic Map,
Torrance, California Quadrangle, 1981.

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C-6 Douglas Aircraft Company Complex
19503 S. Normandie Ave.
Torrance, California

N

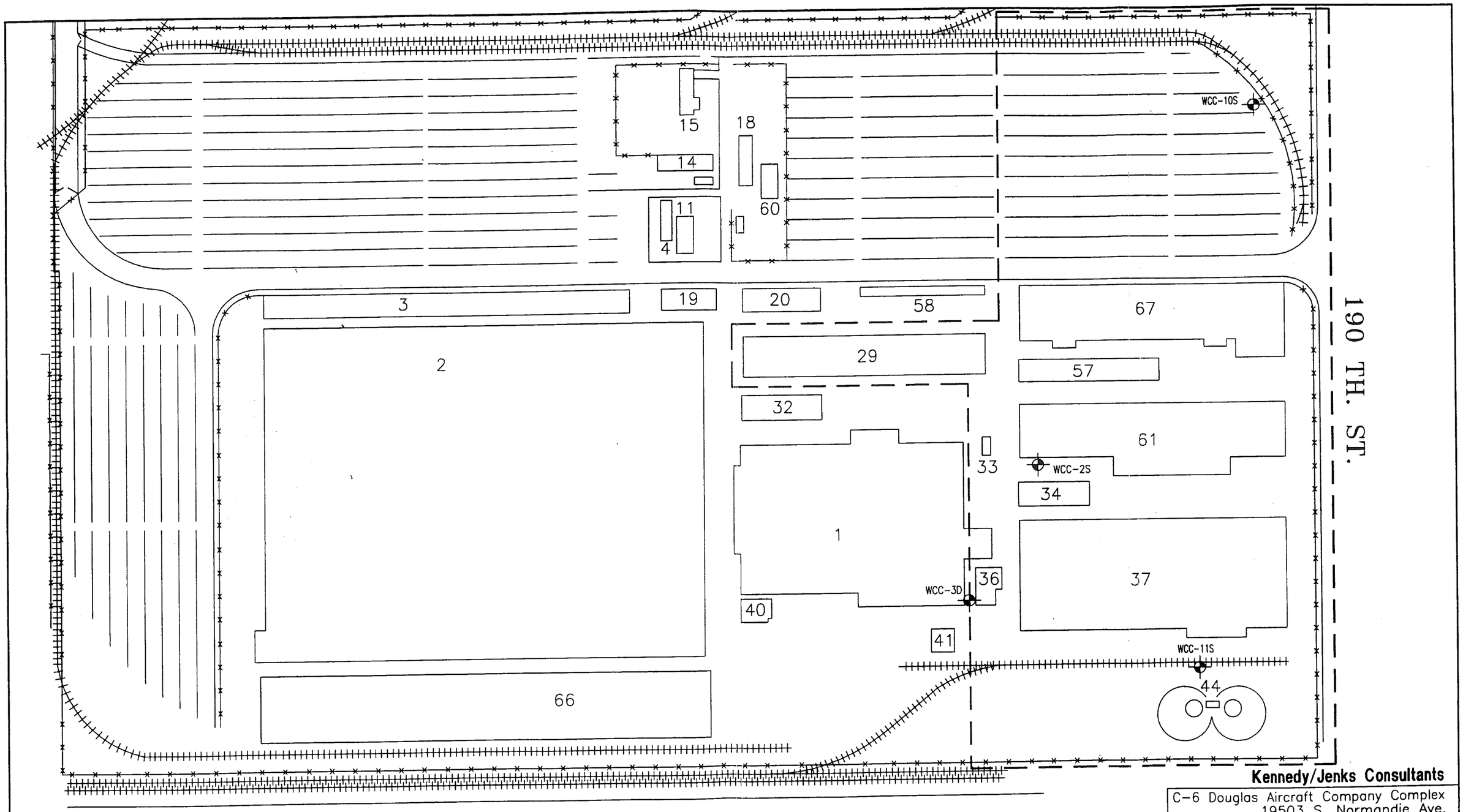
0 2000 4000

Approximate Scale in Feet

Facility Location Map

June 1996
K/J 954019.01

Figure 1



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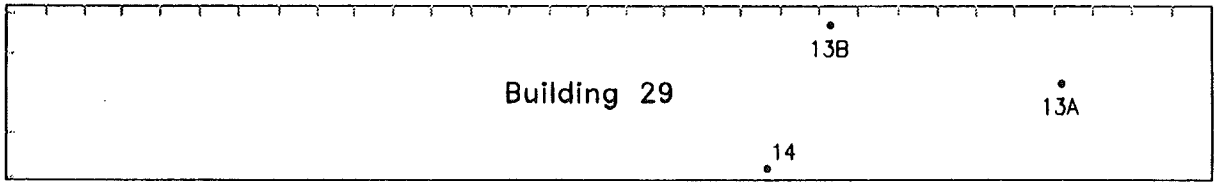
C-6 Douglas Aircraft Company Complex
19503 S. Normandie Ave.
Torrance, California

Facility Layout and Subject Property Map

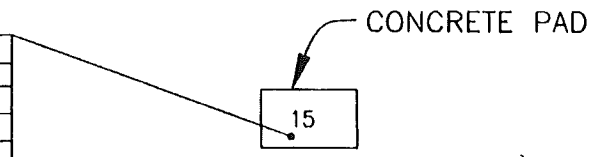
June 1996
K/J 954019.01

Figure 2



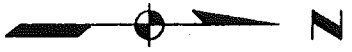
Sample Site 15

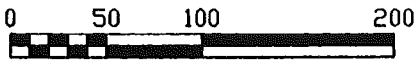
Depth (ft)	TRPH (mg/Kg)	Volatile Organic Compounds (ug/Kg)					
		1,1-DCA	1,1-DCE	PCE	1,1,1-TCA	1,1,2-TCA	TCE
5	< 10	21.0	< 5	69.9	< 5	5.4	21.2
10	< 10	23.7	< 5	56.8	7.4	24.5	17.8
15	NA	< 5	< 5	< 5	< 5	< 5	< 5
20	NA	18.4	< 5	101.8	< 5	14.8	23.7
25	NA	60.0	18.6	202.0	13.5	11.5	200.0



Legend:

•	Phase II approximate boring locations.
TRPH	Total Recoverable Petroleum Hydrocarbons
1,1-DCA	1,1- Dichloroethane
1,1-DCE	1,1- Dichloroethene
1,1,1-TCA	1,1,1- Trichloroethane
1,1,2-TCA	1,1,2- Trichloroethane
PCE	Perchloroethene
TCE	Trichloroethene
<10	Result fell below the given method detection limit
NA	Not Analyzed
mg/Kg	milligrams per Kilogram
ug/Kg	micrograms per Kilogram





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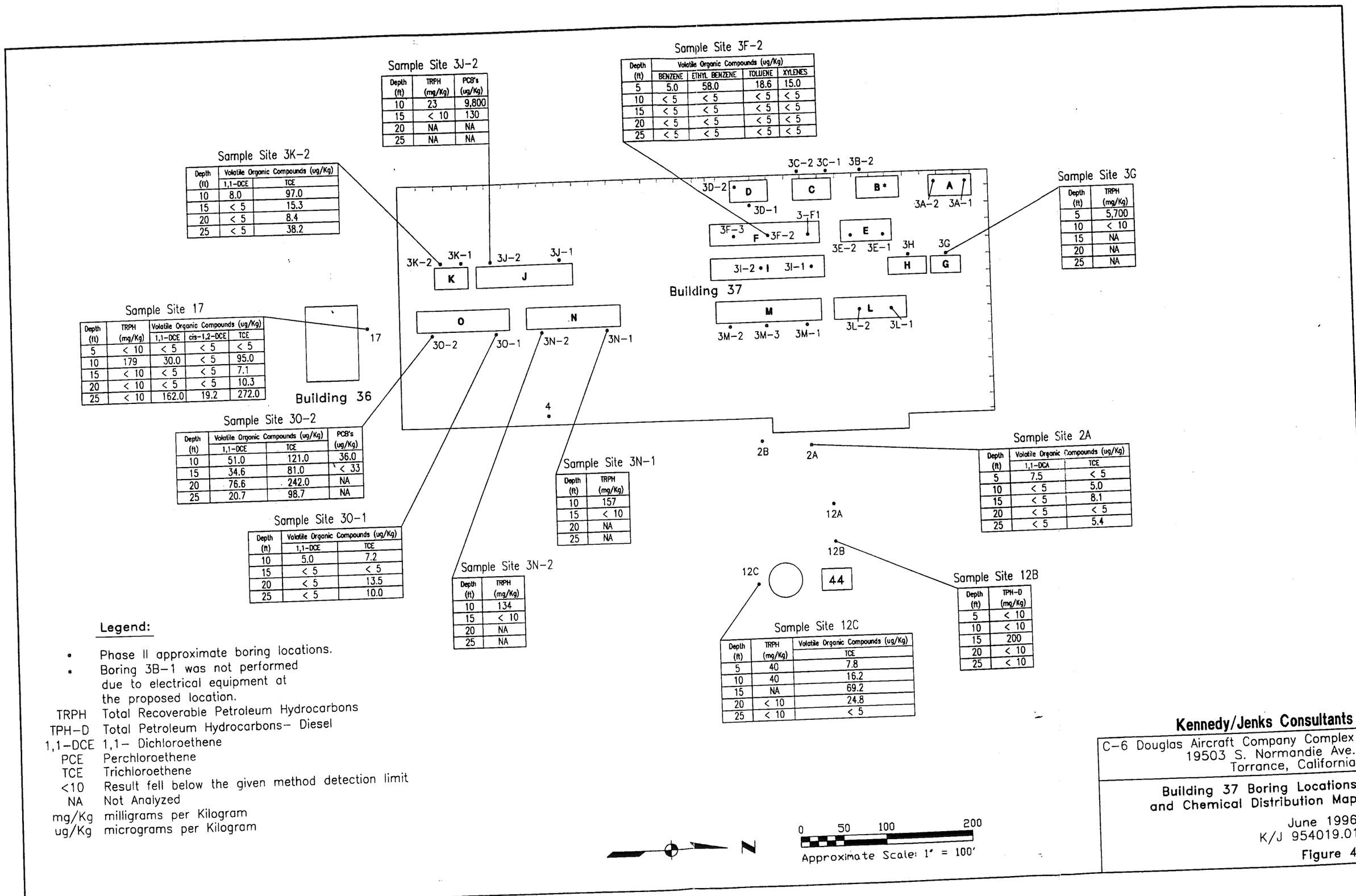
C-6 Douglas Aircraft Company Complex
19503 S. Normandie Ave.
Torrance, California

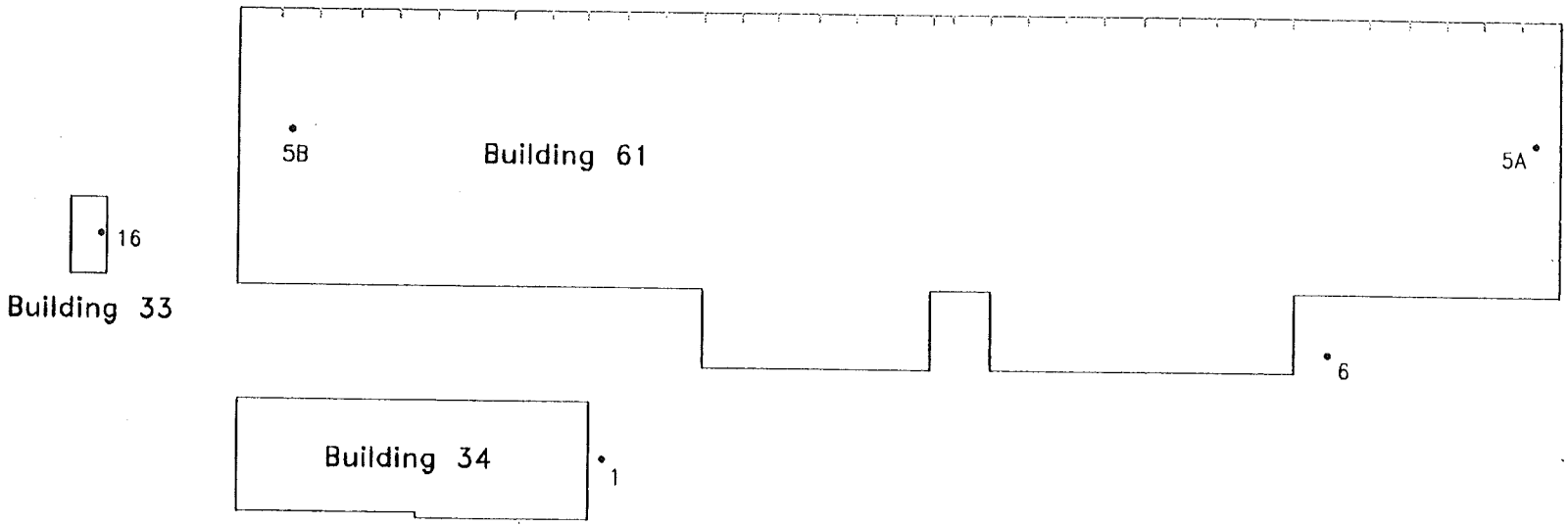
Building 29 Boring Locations and Chemical Distribution Map

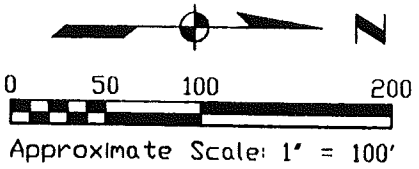
June 1996
K/J 954019.01

Figure 3

BOE-C6-0107359







Legend:

• Phase II approximate boring locations.

Note: No chemical detections were reported for the above shown sample sites.

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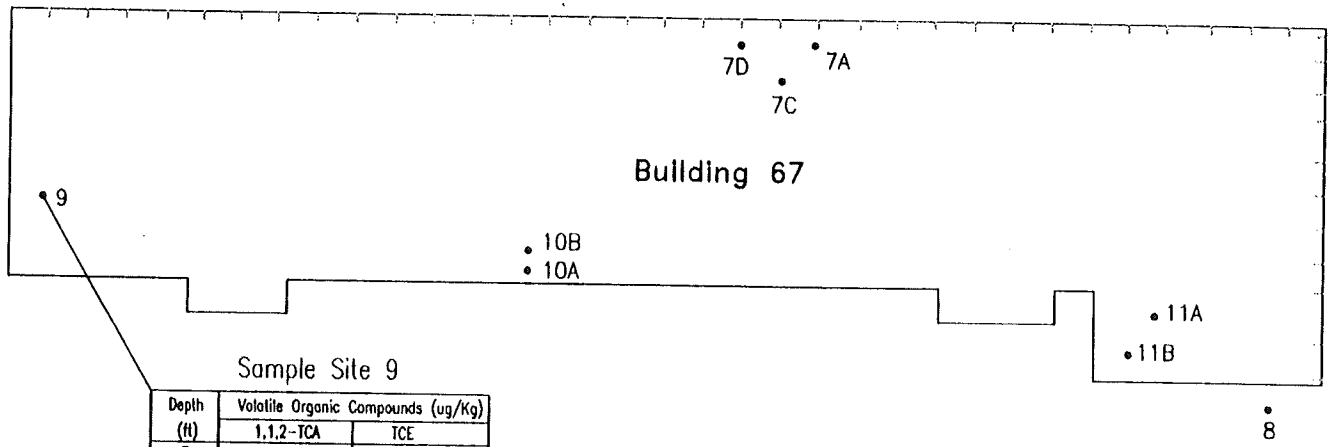
C-6 Douglas Aircraft Company Complex
19503 S. Normandie Ave.
Torrance, California

Building 61 Boring Locations and Chemical Distribution Map

June 1996
K/J 954019.01

Figure 5

BOE-C6-0107361

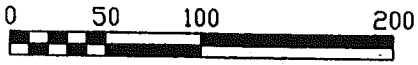


Sample Site 9

Depth (ft)	Volatile Organic Compounds (ug/Kg)	
	1,1,2-TCA	TCE
5	< 5	< 5
10	6.4	10.8

Legend:

•	Phase II approximate boring locations.
1,1,2–TCA	1,1,2– Trichloroethane
TCE	Trichloroethene
< 5	Result fell below the given method detection limit
ug/Kg	micrograms per Kilogram



Approximate Scale: 1" = 100'

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C–6 Douglas Aircraft Company Complex
19503 S. Normandie Ave.
Torrance, California

Building 67 Boring Locations and Chemical Distribution Map

June 1996
K/J 954019.01

Figure 6

Appendix A

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: North of Building 34	Boring Name: 1
DRILLING COMPANY: Maness / DRILLER: Pete	Project Name: DAC C-6 Parcel A Phase II
DRILLING METHOD (S): Geoprobe / DRILL BIT (S) SIZE: 2 in.	Project Number: 954019.01
DEPTH TO WATER: Not Encountered	ELEVATION: / TOTAL DEPTH: 26 ft.
LOGGED BY: J. Knight	DATE STARTED: 4/1/96 / DATE COMPLETED: 4/1/96

SAMPLES: Driven	SAMPLES: Recovered	SAMPLES: Collected	Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
								Concrete, 3 inches
			6.8	5		ML		Clayey SILT: very dark brown, some very fine sand, moist, some organic material
			6.0	10		ML		brown, increasing sand content
			7.2	15		ML		Sandy SILT: brown, very fine sand, moist
			7.1	20		ML		some clay
			7.0	25		ML		decreasing clay
				30				**Boring Completed at 26 feet.**
				35				
				40				

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: East of Building 37, adjacent to clarifiers	Boring Name: 2A
DRILLING COMPANY: Maness / DRILLER: Pete	Project Name: DAC C-6 Parcel A Phase II
DRILLING METHOD (S): Geoprobe / DRILL BIT (S) SIZE: 2 in.	Project Number: 954019.01
DEPTH TO WATER: Not Encountered	ELEVATION: / TOTAL DEPTH: 26 ft.
LOGGED BY: J. Knight	DATE STARTED: 4/1/96 / DATE COMPLETED: 4/1/96

SAMPLES Driven	SAMPLES Recovered	SAMPLES Collected	Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
								Asphalt, 2"
			8.0	5		ML		Sandy SILT: black to dark brown, fine sand, with clay, oily odor, moist
			8.1	10		ML		dark brown to black, weaker odor
			7.8	15		ML		brown, moist, no odor
			7.9	20		ML		
			7.8	25		ML		some medium sand
				30				**Boring Completed at 26 feet.**
				35				
				40				

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: East of Building 37, adjacent to clarifiers	Boring Name: 2B
DRILLING COMPANY: Maness / DRILLER: Pete	Project Name: DAC C-6 Parcel A Phase II
DRILLING METHOD (S): Geoprobe / DRILL BIT (S) SIZE: 2 in.	Project Number: 954019.01
DEPTH TO WATER: Not Encountered	ELEVATION: / TOTAL DEPTH: 26 ft.
LOGGED BY: J. Knight	DATE STARTED: 4/2/96 / DATE COMPLETED: 4/2/96

SAMPLES: Driven	SAMPLES: Recovered	SAMPLES: Collected	SAMPLES: Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
								Asphalt, 2"
				5		ML		Clayey SILT: dark brown to black, some very fine sand, moist
				10		ML		brown, slightly moist
				15		ML		light brown, moist, decreasing clay
				20		ML		
				25		ML		very fine to fine sand
				30				**Boring Completed at 26 feet.**
				35				
				40				

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Building 37, Pit A	Boring Name: 3A-1
DRILLING COMPANY: Gregg Drilling	DRILLER: Jeff
DRILLING METHOD (S): SIMCO 5000	DRILL BIT (S) SIZE: 6 in.
	Project Name: DAC C-6 Parcel A Phase II
	Project Number: 954019.01
DEPTH TO WATER: Not Encountered	ELEVATION:
	TOTAL DEPTH: 26.5 ft.
LOGGED BY: K. Knight	DATE STARTED: 3/26/96
	DATE COMPLETED: 3/26/96

SAMPLES: Driven	SAMPLES: Recovered	SAMPLES: Collected	SAMPLES: Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
								Concrete, 6 inches Background OVM: 0.0 ppm
				5		ML		Sandy SILT: light brown, fine, soft, dry to slightly moist
								Bottom of Machine Pit A
				10		ML		
				15		ML		
				20		ML		SILT: brown, with clay and sand, soft, slightly moist
				25		ML		
				30				**Boring Completed at 26.5 feet.**
				35				
				40				

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Building 37, Pit A		Boring Name: 3A-2	
DRILLING COMPANY: Gregg Drilling	DRILLER: Jeff	Project Name: DAC C-6 Parcel A Phase II	
DRILLING METHOD (S): SIMCO 5000	DRILL BIT (S) SIZE: 6 in.	Project Number: 954019.01	
DEPTH TO WATER: Not Encountered	ELEVATION:	TOTAL DEPTH: 26.5 ft.	
LOGGED BY: K. Knight	DATE STARTED: 3/26/96	DATE COMPLETED: 3/26/96	

SAMPLES: Driven	SAMPLES: Recovered	SAMPLES: Collected	SAMPLES: Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
								Concrete, 6 inches Background OVM: 0.0 ppm
				5		ML		Sandy SILT: light to medium brown, fine, soft, dry to slightly moist
								Bottom of Machine Pit A
				10		ML		
				15		ML		
				20		ML		Clayey SILT: brown, slightly moist, firm
				25		SM		Silty SAND: light brown, fine, loose, dry to slightly moist
				30				**Boring Completed at 26.5 feet.**
				35				
				40				

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Outside Building 37, adjacent to pit B		Boring Name: 3B-2	
DRILLING COMPANY: Maness	DRILLER: Pete	Project Name: DAC C-6 Parcel A Phase II	
DRILLING METHOD (S): Geoprobe	DRILL BIT (S) SIZE: 2 in.	Project Number: 954019.01	
DEPTH TO WATER: Not Encountered		ELEVATION:	TOTAL DEPTH: 34 ft.
LOGGED BY: J. Knight		DATE STARTED: 4/2/96	DATE COMPLETED: 4/2/96

SAMPLES: Driven	SAMPLES: Recovered	SAMPLES: Collected	SAMPLES: Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
								Asphalt, 2"
				5		ML		Clayey SILT: very dark gray brown, some very fine sand, slightly moist, trace of gravel
								Bottom of Machine Pit B
				10		ML		brown, decreasing clay
				15				
						ML		Sandy SILT: brown, very fine sand, slightly moist
				20				
						ML		pods of gray clay
				25				
						ML		increasing clay content
				30				
						ML		decreasing clay
				35				**Boring Completed at 34 feet.**
				40				

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Outside Building 37, adjacent to pit C		Boring Name: 3C-1	
DRILLING COMPANY: Maness	DRILLER: Pete	Project Name: DAC C-6 Parcel A Phase II	
DRILLING METHOD (S): Geoprobe	DRILL BIT (S) SIZE: 2 in.	Project Number: 954019.01	
DEPTH TO WATER: Not Encountered		ELEVATION	TOTAL DEPTH: 36 ft.
LOGGED BY: J. Knight		DATE STARTED: 4/2/96	DATE COMPLETED: 4/2/96

SAMPLES: Driven	Recovered	Collected	Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
				5				Asphalt, 2"
								Bottom of Machine Pit C
				10		CL		Silty CLAY: brown, trace of very fine sand, slightly moist
				15		ML		Sandy SILT: brown, very fine to fine sand, slightly moist
				20		ML		
				25		CL		Silty CLAY: mottled dark and light brown, slightly moist, trace of very fine sand
				30		ML		Clayey SILT: brown, trace of very fine sand, moist
				35		ML		Sandy SILT: brown, very fine sand, some clay, slightly moist
				40				**Boring Completed at 36 feet.**

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Outside Building 37, adjacent to pit C	Boring Name: 3C-2
DRILLING COMPANY: Maness / DRILLER: Pete	Project Name: DAC C-6 Parcel A Phase II
DRILLING METHOD (S): Geoprobe / DRILL BIT (S) SIZE: 2 in.	Project Number: 954019.01
DEPTH TO WATER: Not Encountered / ELEVATION:	TOTAL DEPTH: 36 ft.
LOGGED BY: J. Knight / DATE STARTED: 4/3/96	DATE COMPLETED: 4/3/96

SAMPLES Driven	SAMPLES Recovered	SAMPLES Collected	Head Space Reading (mg/ft.)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
				0				Asphalt, 2"
				5				Bottom of Machine Pit C
			5.6	10		ML		Sandy SILT: brown, very fine to fine sand, slightly moist
			6.2	15		ML		
			6.3	20		SM		Silty SAND: brown, very fine to fine, slightly moist
			6.1	25		ML		Sandy SILT: brown, very fine to fine sand, slightly moist
			6.0	30		ML		Clayey SILT: dark brown, slightly moist, some very fine sand
			6.3	35		ML		Sandy SILT: brown, very fine to fine sand, slightly moist
				40				**Boring Completed at 36 feet.**

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Building 37, adjacent to pit D	Boring Name: 3D-1
DRILLING COMPANY: Maness / DRILLER: Pete	Project Name: DAC C-6 Parcel A Phase II
DRILLING METHOD (S): Geoprobe / DRILL BIT (S) SIZE: 2 in.	Project Number: 954019.01
DEPTH TO WATER: Not Encountered	ELEVATION: / TOTAL DEPTH: 34 ft.
LOGGED BY: J. Knight	DATE STARTED: 4/3/96 / DATE COMPLETED: 4/3/96

Samples: Headspace Reading (ppm)	Depth (feet)	USCS Log	Soil Description and Drilling Remarks
	0		Concrete, 4"
	5		Bottom of Machine Pit D
5.2	12	ML	Sandy SILT: brown, very fine sand, trace of clay, slightly moist
6.0	17	ML	light brown
6.3	22	ML	some clay, moist
6.1	27	ML	trace of clay
6.4	32	ML	increasing clay
	34		Boring Completed at 34 feet.

JAN-11-97 17:18 FROM:MONTGOMERY WATSON IHW ID:818 568 6515 PAGE 2/5

BOE-C6-0107372

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Building 37, Pit D	Boring Name: 3D-2
DRILLING COMPANY: Gregg Drilling	DRILLER: Jeff
DRILLING METHOD (S): SIMCO 5000	DRILL BIT (S) SIZE: 6 in.
	Project Name: DAC C-6 Parcel A Phase II
	Project Number: 954019.01
DEPTH TO WATER: Not Encountered	ELEVATION:
	TOTAL DEPTH: 26.5 ft.
LOGGED BY: K. Knight	DATE STARTED: 3/26/96
	DATE COMPLETED: 3/26/96

SAMPLES: Driven / Recovered / Collected / Hand Sampled / Grab	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
					Concrete, 6 inches Background OVM: 0.0 ppm
	5		ML		Sandy SILT: dark brown, with minor clay, firm, slightly moist
					Bottom of Machine Pit D
	10		ML		SILT: brown, soft, dry to slightly moist
	15		ML		
	20		CL		Silty CLAY: dark brown, firm, moist
	25		ML		SILT: light brown, with minor sand, soft, dry to slightly moist
	30				Boring Completed at 26.5 feet.
	35				
	40				

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION	Building 37, adjacent to pit E
DRILLING COMPANY	Maness
DRILLER	Fete
DRILLING METHOD (S)	Geoprobe
DRILL BIT (S) SIZE	2 in.
DEPTH TO WATER	Not Encountered
LOGGED BY	J. Knight
Boring Name	3E-1
Project Name	DAC C-6 Parcel A Phase II
Project Number	954019.01
ELEVATION	
TOTAL DEPTH	26 ft.
DATE STARTED	4/3/96
DATE COMPLETED	4/3/96

Samples [illegible]	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
					Concrete, 4"
					Approximate Bottom of Machine Pit E
6.2	5		ML		Clayey SILT: dark brown, trace of very fine sand, dry
6.5	10		ML		brown, slightly moist
7.0	15		ML		increasing sand content
6.9	20		ML		dark brown, trace of sand
6.3	25		ML		Sandy SILT: brown, very fine to fine, slightly moist
	30				Boring Completed at 26 feet.
	35				
	40				

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Building 37, adjacent to pit E		Boring Name: 3E-2	
DRILLING COMPANY: Maness	DRILLER: Pete	Project Name: DAC C-6 Parcel A Phase II	
DRILLING METHOD (S): Geoprobe	DRILL BIT (S) SIZE: 2 in.	Project Number: 954019.01	
DEPTH TO WATER: Not Encountered		ELEVATION:	TOTAL DEPTH: 26 ft.
LOGGED BY: J. Knight		DATE STARTED: 4/3/96	DATE COMPLETED: 4/3/96

SAMPLES: Driven	SAMPLES: Recovered	SAMPLES: Collected	SAMPLES: Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
								Concrete, 4"
								Aproximate Bottom of Machine Pit E
			4.7	5		ML		Sandy SILT: dark brown, very fine sand, slightly moist, some clay
			5.4	10		ML		light brown, dry
			5.6	15		ML		light to dark brown, dry
			5.1	20		ML		light brown, very fine to fine sand, dry
			5.1	25		ML		light brown to gray, trace of clay, dry
				30				**Boring Completed at 26 feet.**
				35				
				40				

Boring Log

Kennedy/Jenks Consultants

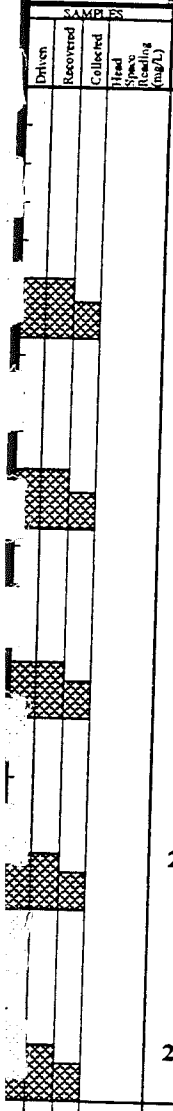
BORING LOCATION: Building 37, Pit F	Boring Name: 3F-1
DRILLING COMPANY: Gregg Drilling	DRILLER: Jeff
DRILLING METHOD (S): SIMCO 5000	DRILL BIT (S) SIZE: 6 in.
	Project Name: DAC C-6 Parcel A Phase II
	Project Number: 954019.01
DEPTH TO WATER: Not Encountered	ELEVATION:
	TOTAL DEPTH: 26.5 ft.
LOGGED BY: K. Knight	DATE STARTED: 3/26/96
	DATE COMPLETED: 3/26/96

SAMPLES: Driven	SAMPLES: Recovered	SAMPLES: Collected	SAMPLES: Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
								Concrete, 6 inches Background OVM: 0.0 ppm
				5		ML		Sandy SILT: brown, fine, soft, slighly moist
								Bottom of Machine Pit F
				10		SM		Silty SAND: light brown, fine, dry to slighly moist
				15		SM		
				20		ML		SILT: brown, with minor sand, firm, slightly moist
				25		SM		Silty SAND: light brown, fine, loose, dry to slighly moist
				30				**Boring Completed at 26.5 feet.**
				35				
				40				

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Building 37, Pit F	Boring Name: 3F-2
DRILLING COMPANY: Gregg Drilling	DRILLER: Jeff
DRILLING METHOD (S): SIMCO 5000	DRILL BIT (S) SIZE: 6 in.
	Project Name: DAC C-6 Parcel A Phase II
DEPTH TO WATER: Not Encountered	Project Number: 954019.01
LOGGED BY: K. Knight	ELEVATION:
	TOTAL DEPTH: 26.5 ft.
	DATE STARTED: 3/26/96
	DATE COMPLETED: 3/26/96



SOIL DESCRIPTION AND DRILLING REMARKS
Concrete, 6 inches Background OVM: 0.4 ppm
Sandy SILT: brown, fine, firm, slightly moist, faint stain and odor at top of 5-foot sample
Bottom of Machine Pit F
Silty SAND: light brown, fine, loose, dry to slightly moist
Silty CLAY: dark brown, firm, slightly moist
Silty SAND: light brown, fine, loose, dry to slighly moist
Boring Completed at 26.5 feet.

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Building 37, Pit F	Boring Name: 3F-3
DRILLING COMPANY: Gregg Drilling	DRILLER: Jeff
DRILLING METHOD (S): SIMCO 5000	DRILL BIT (S) SIZE: 6 in.
	Project Name: DAC C-6 Parcel A Phase II
	Project Number: 954019.01
DEPTH TO WATER: Not Encountered	ELEVATION:
	TOTAL DEPTH: 26.5 ft.
LOGGED BY: K. Knight	DATE STARTED: 3/26/96
	DATE COMPLETED: 3/26/96

SAMPLES: Driven	SAMPLES: Recovered	SAMPLES: Collected	SAMPLES: Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
								Concrete, 6 inches Background OVM: 0.0 ppm
				5		ML		Sandy SILT: light to medium brown, fine, firm, slightly moist
								Bottom of Machine Pit F
				10		ML		
				15		ML		dry and loose
				20		CL		Silty CLAY: brown, firm, slightly moist
				25		ML		Sandy SILT: light to medium brown, fine, firm, slightly moist
				30				**Boring Completed at 26.5 feet.**
				35				
				40				

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Building 37, adjacent to pit G		Boring Name: 3G	
DRILLING COMPANY: Maness	DRILLER: Pete	Project Name: DAC C-6 Parcel A Phase II	
DRILLING METHOD (S): Geoprobe	DRILL BIT (S) SIZE: 2 in.	Project Number: 954019.01	
DEPTH TO WATER: Not Encountered		ELEVATION:	TOTAL DEPTH: 26 ft.
LOGGED BY: J. Knight		DATE STARTED: 4/3/96	DATE COMPLETED: 4/3/96

SAMPLES: Driven	SAMPLES: Recovered	SAMPLES: Collected	Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
								Concrete, 4"
								Approximate Bottom of Machine Pit G
			4.2	5		ML		Clayey SILT: mottled brown and dark brown, moist, low plasticity
				10		ML		Sandy SILT: brown, very fine to fine sand, slightly moist
			5.2	15		ML		some clay, dry
				20		ML		no clay, dry, very fine to fine sand, firm
			5.0	25		ML		trace of clay, dry
				30				**Boring Completed at 26 feet.**
				35				
				40				

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Building 37, adjacent to pit H		Boring Name: 3H	
DRILLING COMPANY: Maness	DRILLER: Pete	Project Name: DAC C-6 Parcel A Phase II	
DRILLING METHOD (S): Geoprobe	DRILL BIT (S) SIZE: 2 in.	Project Number: 954019.01	
DEPTH TO WATER: Not Encountered		ELEVATION:	TOTAL DEPTH: 26 ft.
LOGGED BY: J. Knight		DATE STARTED: 4/3/96	DATE COMPLETED: 4/3/96

SAMPLES: Driven	SAMPLES: Recovered	SAMPLES: Collected	SAMPLES: Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
								Concrete, 4"
								Approximate Bottom of Pit H
			5.7	5		CL		Silty CLAY: dark brown, slightly moist, low plasticity
			6.1	10		ML		Clayey SILT: light brown, dry
			6.3	15		ML		dry
			6.2	20		ML		
				25		ML		no recovery
				30				**Boring Completed at 26 feet.**
				35				
				40				

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Building 37, Pit I	Boring Name: 3I-1
DRILLING COMPANY: Gregg Drilling	DRILLER: Jeff
DRILLING METHOD (S): SIMCO 5000	DRILL BIT (S) SIZE: 6 in.
	Project Name: DAC C-6 Parcel A Phase II
	Project Number: 954019.01
DEPTH TO WATER: Not Encountered	ELEVATION:
	TOTAL DEPTH: 26.5 ft.
LOGGED BY: K. Knight	DATE STARTED: 3/25/96
	DATE COMPLETED: 3/25/96

SAMPLES: Driven	SAMPLES: Recovered	SAMPLES: Collected	SAMPLES: Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
								Concrete, 6 inches Background OVM: 0.0 ppm
				5		ML		Sandy SILT: brown, fine, firm, dry to slightly moist
								Bottom of Machine Pit I
				10		ML		
				15		ML		
				20		CL		Silty CLAY: brown, firm, minor fine sand, slightly moist
				25		ML		Sandy SILT: light brown, fine, firm, dry to slightly moist
				30				**Boring Completed at 26.5 feet.**
				35				
				40				

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Building 37, Pit I	Boring Name: 3I-2
DRILLING COMPANY: Gregg Drilling	DRILLER: Jeff
DRILLING METHOD (S): SIMCO 5000	DRILL BIT (S) SIZE: 6 in.
	Project Name: DAC C-6 Parcel A Phase II
	Project Number: 954019.01
DEPTH TO WATER: Not Encountered	ELEVATION:
	TOTAL DEPTH: 26.5 ft.
LOGGED BY: K. Knight	DATE STARTED: 3/25/96
	DATE COMPLETED: 3/25/96

SAMPLES: Driven	SAMPLES: Recovered	SAMPLES: Collected	SAMPLES: Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
				0				Concrete, 6 inches Background OVM: 0.0 ppm
				5		SM		Silty SAND: light brown, fine, dry to slightly moist, poorly graded
								Bottom of Machine Pit I
				10		ML		Sandy SILT: brown, with mica, soft, slightly moist
				15		ML		
				20		ML		Clayey SILT
				25		ML		
				30				**Boring Completed at 26.5 feet.**
				35				
				40				

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Building 37, Pit J	Boring Name: 3J-1
DRILLING COMPANY: Gregg Drilling	DRILLER: Jeff
DRILLING METHOD (S): HSA Mobile B-53	DRILL BIT (S) SIZE: 6 in.
	Project Name: DAC C-6 Parcel A Phase II
	Project Number: 954019.01
DEPTH TO WATER: Not Encountered	ELEVATION:
	TOTAL DEPTH: 26.5 ft.
LOGGED BY: S. Bartling	DATE STARTED: 3/26/96
	DATE COMPLETED: 3/26/96

SAMPLES: Driven	SAMPLES: Recovered	SAMPLES: Collected	SAMPLES: Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
				0				Concrete brown clay, fill PID: 4.5 ppm at hole, 4.6 ppm in building
				10				Bottom of Machine Pit J
						CL/ML	2.5Y4/4	Silty CLAY/Clayey SILT: olive brown, hard, dry
				15		ML	2.5Y5/4	Clayey SILT: light olive brown, soft, friable, dry PID: 4.9 at rig
				20		CL/ML	2.5Y4/4	Silty CLAY/Clayey SILT: olive brown, firm, friable, dry
				25		ML	2.5Y5/6	Clayey SILT: light olive brown, soft, friable, dry
				30				**Boring Completed at 26.5 feet.**
				35				
				40				

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Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Building 37, Pit J	Boring Name: 3J-2
DRILLING COMPANY: Gregg Drilling	DRILLER: Jeff
DRILLING METHOD (S): HSA Mobile B-53	DRILL BIT (S) SIZE: 6 in.
Project Name: DAC C-6 Parcel A Phase II	
Project Number: 954019.01	
DEPTH TO WATER: Not Encountered	ELEVATION:
TOTAL DEPTH: 26.5 ft.	
LOGGED BY: S. Bartling	DATE STARTED: 3/25/96
DATE COMPLETED: 3/25/96	

SAMPLES: Driven	SAMPLES: Recovered	SAMPLES: Collected	SAMPLES: Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
								Concrete
				5		ML	2.5Y4/3	Clayey SILT: light brown to olive brown, soft, with firm patches
				10				Bottom of Machine Pit J
						ML	2.5Y5/4	Clayey SILT: light olive brown, firm, dry, hard and darker in spots
				15		ML	2.5Y5/6	Clayey SILT: light olive brown, soft to firm, less clay, more firm in patches with more clay, dry
				20		ML	2.5Y5/6 - 4/4	Clayey SILT as above
				25		ML	2.5Y5/4	Clayey SILT as above
				30				**Boring Completed at 26.5 feet.**
				35				
				40				

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Building 37, Pit K	Boring Name: 3K-1
DRILLING COMPANY: Gregg Drilling	DRILLER: Jeff
DRILLING METHOD (S): HSA Mobile B-53	DRILL BIT (S) SIZE: 6 in.
	Project Name: DAC C-6 Parcel A Phase II
	Project Number: 954019.01
DEPTH TO WATER: Not Encountered	ELEVATION:
	TOTAL DEPTH: 26.5 ft.
LOGGED BY: S. Bartling	DATE STARTED: 3/25/96
	DATE COMPLETED: 3/25/96

SAMPLES: Driven	SAMPLES: Recovered	SAMPLES: Collected	SAMPLES: Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
				0		CL	10YR3/3	Concrete, 6-8 inches dark brown clay, soft
				10				Bottom of Machine Pit K
						CL	2.5Y5/4	Silty CLAY: light olive brown, gritty, soft to firm, nonplastic, dry, mottled yellow
				15		ML	2.5Y6/4	Clayey SILT: light yellow brown, soft, dry
				20		ML	2.5Y6/4	Clayey SILT: as above, more firm
				25		CL	2.5Y5/3	Silty CLAY: light olive brown, firm, nonplastic, dry
				30				**Boring Completed at 26.5 feet.**
				35				
				40				

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Building 37, Pit K		Boring Name: 3K-2	
DRILLING COMPANY: Gregg Drilling	DRILLER: Jeff	Project Name: DAC C-6 Parcel A Phase II	
DRILLING METHOD (S): HSA Mobile B-53	DRILL BIT (S) SIZE: 6 in.	Project Number: 954019.01	
DEPTH TO WATER: Not Encountered		ELEVATION:	TOTAL DEPTH: 26.5 ft.
LOGGED BY: S. Bartling		DATE STARTED: 3/26/96	DATE COMPLETED: 3/26/96

SAMPLES: Driven	SAMPLES: Recovered	SAMPLES: Collected	SAMPLES: Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
				0				Concrete, 6-8 inches light brown clay fill
				5				PID 4-5 ppm at rig 4-5 ppm ambient air
				10				Bottom of Machine Pit K
						CL	2.5Y4/6	Silty CLAY: olive brown, firm to hard, dry, nonplastic
				15		ML	2.5Y5/4	Clayey SILT: light olive brown, soft, friable, dry, with light tan, hard inclusions (5%)
				20		CL	2.5Y4/4	Silty CLAY: olive brown, soft to firm, dry, nonplastic
				25		ML	2.5Y4/4	Clayey SILT: olive brown, soft, friable, dry
				30				**Boring Completed at 26.5 feet.**
				35				
				40				

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Building 37, Pit L		Boring Name: 3L-1	
DRILLING COMPANY: Gregg Drilling	DRILLER: Jeff	Project Name: DAC C-6 Parcel A Phase II	
DRILLING METHOD (S): SIMCO 5000	DRILL BIT (S) SIZE: 6 in.	Project Number: 954019.01	
DEPTH TO WATER: Not Encountered		ELEVATION:	TOTAL DEPTH: 26.5 ft.
LOGGED BY: K. Knight		DATE STARTED: 3/25/96	DATE COMPLETED: 3/25/96

SAMPLES: Driven	SAMPLES: Recovered	SAMPLES: Collected	SAMPLES: Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
								Concrete, 6 inches Background OVM: 0.0 ppm
				5		ML		SILT: brown, minor sand and clay, firm, slightly moist
								Bottom of Machine Pit L
				10		ML		
				15		ML		Sandy SILT: brown, fine, soft to firm, slightly moist
				20		ML		Clayey SILT: brown, firm, slightly moist
				25		SM		Silty SAND: light brown, fine, loose, dry to slightly moist
				30				**Boring Completed at 26.5 feet.**
				35				
				40				

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Building 37, Pit L	Boring Name: 3L-2
DRILLING COMPANY: Gregg Drilling	DRILLER: Jeff
DRILLING METHOD (S): SIMCO 5000	DRILL BIT (S) SIZE: 6 in.
	Project Name: DAC C-6 Parcel A Phase II
	Project Number: 954019.01
DEPTH TO WATER: Not Encountered	ELEVATION:
	TOTAL DEPTH: 28 ft.
LOGGED BY: K. Knight	DATE STARTED: 3/25/96
	DATE COMPLETED: 3/25/96

SAMPLES: Driven	SAMPLES: Recovered	SAMPLES: Collected	SAMPLES: Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
								Concrete, 6 inches Background OVM: 0.0 ppm
				5		ML		Sandy SILT: brown, fine, soft, dry to slightly moist
								Bottom of Machine Pit L
				10		ML		
				15		ML		
				20		ML		Clayey SILT: brown, firm, slightly moist
				25		SM		Silty SAND: light brown, fine, loose, dry to slightly moist
				30				**Boring Completed at 28 feet.**
				35				
				40				

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Building 37, Pit M		Boring Name: 3M-1	
DRILLING COMPANY: Gregg Drilling	DRILLER: Jeff	Project Name: DAC C-6 Parcel A Phase II	
DRILLING METHOD (S): HSA Mobile B-53	DRILL BIT (S) SIZE: 6 in.	Project Number: 954019.01	
DEPTH TO WATER: Not Encountered	ELEVATION:	TOTAL DEPTH: 28 ft.	
LOGGED BY: S. Bartling	DATE STARTED: 3/26/96	DATE COMPLETED: 3/26/96	

SAMPLES: Driven	SAMPLES: Recovered	SAMPLES: Collected	SAMPLES: Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
				0				Concrete, 6 inches light brown clay fill
				5		ML		Clayey SILT/Silty CLAY: light olive brown, soft
				10				Bottom of Machine Pit M
						CL	2.5Y4/4	Silty CLAY: olive brown, hard, dry, nonplastic
				15		ML	2.5Y5/4	Clayey SILT: light olive brown, soft, friable, dry PID: 4.2 ppm at hole
				20		CL	2.5Y4/4	Silty CLAY: olive brown, soft to firm, dry
				25		ML	2.5Y5/4	Clayey SILT: light olive brown, soft, dry
				30				**Boring Completed at 28 feet.**
				35				
				40				

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Building 37, Pit M	Boring Name: 3M-2
DRILLING COMPANY: Gregg Drilling	DRILLER: Jeff
DRILLING METHOD (S): HSA Mobile B-53	DRILL BIT (S) SIZE: 6 in.
	Project Name: DAC C-6 Parcel A Phase II
	Project Number: 954019.01
DEPTH TO WATER: Not Encountered	ELEVATION:
	TOTAL DEPTH: 26.5 ft.
LOGGED BY: S. Bartling	DATE STARTED: 3/26/96
	DATE COMPLETED: 3/26/96

SAMPLES: Driven	SAMPLES: Recovered	SAMPLES: Collected	SAMPLES: Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
						CL		Concrete, 6 inches brown clay
				5		CL		Silty CLAY: light olive brown, soft
				10				Bottom of Machine Pit M
						CL	2.5Y4/4	Silty CLAY: olive brown, firm, nonplastic
				15		ML	2.5Y5/4	Clayey SILT: light olive brown, firm, friable
				20		ML	2.5Y5/4	Clayey SILT as above
				25		ML	2.5Y5/4	Clayey SILT as above
				30				**Boring Completed at 26.5 feet.**
				35				
				40				

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Building 37, Pit M	Boring Name: 3M-3
DRILLING COMPANY: Gregg Drilling	DRILLER: Jeff
DRILLING METHOD (S): HSA Mobile B-53	DRILL BIT (S) SIZE: 6 in.
	Project Name: DAC C-6 Parcel A Phase II
	Project Number: 954019.01
DEPTH TO WATER: Not Encountered	ELEVATION:
	TOTAL DEPTH: 26.5 ft.
LOGGED BY: S. Bartling	DATE STARTED: 3/26/96
	DATE COMPLETED: 3/26/96

SAMPLES: Driven	SAMPLES: Recovered	SAMPLES: Collected	SAMPLES: Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
				0		CL		Concrete, 6 inches brown clay
				5		CL		Silty CLAY: olive brown
				10				Bottom of Machine Pit M
						CL	2.5Y4/4	Silty CLAY: olive brown, firm to hard, nonplastic, damp PID: 6.6 ppm ambient air 5.8 ppm at rig
				15		CL/ML	2.5Y5/4	Silty CLAY/Clayey SILT: light olive brown, soft, nonplastic, dry PID: 5.1 bag sample
				20		CL/ML	2.5Y5/4	Silty CLAY/Clayey SILT: light olive brown, soft to firm, dry
				25		ML	2.5Y5/4	Clayey SILT: light olive brown, soft, dry, less clay, trace of sand PID 4.7 ambient air
				30				**Boring Completed at 26.5 feet.**
				35				
				40				

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Building 37, Pit N		Boring Name: 3N-1	
DRILLING COMPANY: Gregg Drilling	DRILLER: Jeff	Project Name: DAC C-6 Parcel A Phase II	
DRILLING METHOD (S): HSA Mobile B-53	DRILL BIT (S) SIZE: 6 in.	Project Number: 954019.01	
DEPTH TO WATER: Not Encountered		ELEVATION:	TOTAL DEPTH: 27 ft.
LOGGED BY: S. Bartling		DATE STARTED: 3/25/96	DATE COMPLETED: 3/25/96

SAMPLES: Driven	SAMPLES: Recovered	SAMPLES: Collected	SAMPLES: Head Space Screening (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
								Concrete, 6 inches
				5		CL	2.5Y6/4 to 4/4	CLAY: with sand and silt, light yellow brown to olive brown, dry, soft
				10				Bottom of Machine Pit N
						CL	2.5Y4/3	Silty CLAY: olive brown, firm, nonplastic, moist
				15		ML	2.5Y5/3	Clayey SILT: light olive brown, soft, moist
				20		ML	2.5Y4/4	Clayey SILT: as above
				25		ML		Clayey SILT: as above
				30				**Boring Completed at 27 feet.**
				35				
				40				

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Building 37, Pit N	Boring Name: 3N-2
DRILLING COMPANY: Gregg Drilling	DRILLER: Jeff
DRILLING METHOD (S): HSA Mobile B-53	DRILL BIT (S) SIZE: 6 in.
	Project Name: DAC C-6 Parcel A Phase II
	Project Number: 954019.01
DEPTH TO WATER: Not Encountered	ELEVATION:
	TOTAL DEPTH: 26.5 ft.
LOGGED BY: S. Bartling	DATE STARTED: 3/25/96
	DATE COMPLETED: 3/25/96

SAMPLES: Driven	SAMPLES: Recovered	SAMPLES: Collected	SAMPLES: Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
				0		CL/ ML		Concrete, 6 inches Silty CLAY/Clayey SILT: light olive brown
				10				Bottom of Machine Pit N
						ML	2.5Y4/4 to 5/4	Clayey SILT, olive brown, hard to very hard, dry, some purple metallic sheen in spots
				15		ML	2.5Y5/4	Clayey SILT: light olive brown, soft to firm, dry
				20		ML	2.5Y5/4	Clayey SILT: light olive brown, soft to firm, with more clay in thin lenses
				25		ML	2.5Y5/4	Clayey SILT: as above
				30				**Boring Completed at 26.5 feet.**
				35				
				40				

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Building 37, Pit O		Boring Name: 3O-1	
DRILLING COMPANY: Gregg Drilling	DRILLER: Jeff	Project Name: DAC C-6 Parcel A Phase II	
DRILLING METHOD (S): HSA Mobile B-53	DRILL BIT (S) SIZE: 6 in.	Project Number: 954019.01	
DEPTH TO WATER: Not Encountered		ELEVATION:	TOTAL DEPTH: 26.5 ft.
LOGGED BY: S. Bartling		DATE STARTED: 3/26/96	DATE COMPLETED: 3/26/96

SAMPLES: Driven	SAMPLES: Recovered	SAMPLES: Collected	SAMPLES: Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
				0		ML		Concrete, 6 inches SILT: brown to olive brown, soft, dry
				5				
				10				Bottom of Machine Pit O
						CL/ ML	2.5Y5/4 to 4/4	Silty CLAY/ Clayey SILT: light olive brown to olive brown, firm, nonplastic, dry
				15		ML	2.5Y5/4 to 5/6	Clayey SILT: light olive brown, firm, dry
				20		ML	2.5Y5/4	Clayey SILT: as above, trace of very fine sand
				25		ML	2.5Y5/4	Clayey SILT: as above
				30				**Boring Completed at 26.5 feet.**
				35				
				40				

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Building 37, Pit O		Boring Name: 3O-2	
DRILLING COMPANY: Gregg Drilling	DRILLER: Jeff	Project Name: DAC C-6 Parcel A Phase II	
DRILLING METHOD (S): HSA Mobile B-53	DRILL BIT (S) SIZE: 6 in.	Project Number: 954019.01	
DEPTH TO WATER: Not Encountered		ELEVATION:	TOTAL DEPTH: 26.5 ft.
LOGGED BY: S. Bartling		DATE STARTED: 3/26/96	DATE COMPLETED: 3/26/96

SAMPLES: Driven	SAMPLES: Recovered	SAMPLES: Collected	SAMPLES: Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
						CL	10YR/3/6	Concrete, 6 inches Silty CLAY: fill, dark yellow brown, nonplastic
				5		CL/ ML		Silty CLAY/Clayey SILT: yellow brown, soft
				10				Bottom of Machine Pit O
						ML	2.5Y5/6	Clayey SILT: light olive brown, soft, dry
				15		ML	2.5Y6/6	Clayey SILT: olive yellow, soft, dry, less clay
				20		ML		Clayey SILT: as above
				25		ML		Clayey SILT: as above
				30				**Boring Completed at 26.5 feet.**
				35				
				40				

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Southeast portion of Building 37		Boring Name: 4	
DRILLING COMPANY: Gregg Drilling	DRILLER: Jeff	Project Name: DAC C-6 Parcel A Phase II	
DRILLING METHOD (S): SIMCO 5000	DRILL BIT (S) SIZE: 6 in.	Project Number: 954019.01	
DEPTH TO WATER: Not Encountered		ELEVATION:	TOTAL DEPTH: 26.5 ft.
LOGGED BY: K. Knight		DATE STARTED: 3/27/96	DATE COMPLETED: 3/27/96

SAMPLES: Driven	SAMPLES: Recovered	SAMPLES: Collected	SAMPLES: Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
				0				Concrete, 6 inches Background OVM: 0.0 ppm
						CL		Silty CLAY: dark brown and gray, low plasticity, slightly moist
				5		ML		Sandy SILT: brown, fine, firm, slightly moist
				10		ML		Clayey SILT: dark brown, firm, slightly moist
				15		SM		Silty SAND: brown, fine, loose, slightly moist
				20		SM		
				25		SM		
				30				**Boring Completed at 26.5 feet.**
				35				
				40				

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Building 61, adjacent to northern elevator	Boring Name: 5A
DRILLING COMPANY: Maness / DRILLER: Pete	Project Name: DAC C-6 Parcel A Phase II
DRILLING METHOD (S): Geoprobe / DRILL BIT (S) SIZE: 2 in.	Project Number: 954019.01
DEPTH TO WATER: Not Encountered	ELEVATION: / TOTAL DEPTH: 36 ft.
LOGGED BY: J. Knight	DATE STARTED: 4/5/96 / DATE COMPLETED: 4/5/96

SAMPLES: Driven	SAMPLES: Recovered	SAMPLES: Collected	SAMPLES: Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
								Concrete, 4"
				5		CL		Silty CLAY: dark brown, moist, trace of coarse sand, medium plasticity
				10		CL		brown, slightly moist, low plasticity
				15		ML		Sandy SILT: brown, very fine to fine, moist
				20		ML		Clayey SILT: brown, moist, trace of very fine sand
				25		ML		Sandy SILT: brown, very fine sand, trace of clay, moist
				30		ML		
				35		ML		some clay, slightly moist
				40				**Boring Completed at 36 feet.**

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Building 61, adjacent to southern elevator	Boring Name: 5B
DRILLING COMPANY: Maness / DRILLER: Pete	Project Name: DAC C-6 Parcel A Phase II
DRILLING METHOD (S): Geoprobe / DRILL BIT (S) SIZE: 2 in.	Project Number: 954019.01
DEPTH TO WATER: Not Encountered	ELEVATION: / TOTAL DEPTH: 36 ft.
LOGGED BY: J. Knight	DATE STARTED: 4/5/96 / DATE COMPLETED: 4/5/96

SAMPLES: Driven	Recovered	Collected	Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
								Concrete, 4"
				5		ML		Sandy SILT: brown, very fine to fine sand, moist
				10		ML		trace of clay
				15		ML		light brown, no clay, slightly moist
				20		ML		moist
				25		ML		
				30		ML		
				35		ML		brown, very fine to fine sand, very moist
				40				**Boring Completed at 36 feet.**

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Outside northeast corner of building 61	Boring Name: 6
DRILLING COMPANY: Maness / DRILLER: Pete	Project Name: DAC C-6 Parcel A Phase II
DRILLING METHOD (S): Geoprobe / DRILL BIT (S) SIZE: 2 in.	Project Number: 954019.01
DEPTH TO WATER: Not Encountered	ELEVATION: / TOTAL DEPTH: 26 ft.
LOGGED BY: J. Knight	DATE STARTED: 4/1/96 / DATE COMPLETED: 4/1/96

SAMPLES Driven	SAMPLES Recovered	SAMPLES Collected	Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
								Concrete, 4"
			7.0	5		ML		Sandy SILT: brown, very fine to fine sand, moist
			7.1	10		ML		trace of clay
			7.3	15		ML		light brown, no clay, slightly moist
			6.8	20		ML		moist
			6.9	25		ML		
				30				**Boring Completed at 26 feet.**
				35				
				40				

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Building 67		Boring Name: 7A	
DRILLING COMPANY: Gregg Drilling	DRILLER:	Project Name: DAC C-6 Parcel A Phase II	
DRILLING METHOD (S): HydroPush	DRILL BIT (S) SIZE: 2 in.	Project Number: 954019.01	
DEPTH TO WATER: Not Encountered		ELEVATION:	TOTAL DEPTH: 26 ft.
LOGGED BY: J. Knight		DATE STARTED: 4/8/96	DATE COMPLETED: 4/8/96

SAMPLES: Driven	SAMPLES: Recovered	SAMPLES: Collected	Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
								Concrete, 4"
			5.3	5		ML		Sandy SILT: brown, very fine sand, some clay, slightly moist
			5.8	10		ML		decreasing clay, soft
			6.1	15		ML		dry
			6.5	20		ML		slightly moist
			6.0	25		ML		
				30				**Boring Completed at 26 feet.**
				35				
				40				

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Building 67		Boring Name: 7C	
DRILLING COMPANY: Gregg Drilling	DRILLER:	Project Name: DAC C-6 Parcel A Phase II	
DRILLING METHOD (S): Hydro Push	DRILL BIT (S) SIZE: 2 in.	Project Number: 954019.01	
DEPTH TO WATER: Not Encountered		ELEVATION:	TOTAL DEPTH: 26 ft.
LOGGED BY: J. Knight		DATE STARTED: 4/8/96	DATE COMPLETED: 4/8/96

SAMPLES: Driven	SAMPLES: Recovered	SAMPLES: Collected	SAMPLES: Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
								Concrete, 4"
			5.3	5		ML		Clayey SILT: dark brown, slightly moist, trace of very fine sand
			5.8	10		ML		Sandy SILT: brown, very fine sand, slightly moist, some clay
			6.2	15		ML		decreasing clay, soft
						ML		dry, soft
			6.2	20				
			6.3	25		ML		some clay, slightly moist
				30				**Boring Completed at 26 feet.**
				35				
				40				

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Building 67	Boring Name: 7D
DRILLING COMPANY: Gregg Drilling	DRILLER:
DRILLING METHOD (S): Hydro Push	DRILL BIT (S) SIZE: 2 in.
	Project Name: DAC C-6 Parcel A Phase II
	Project Number: 954019.01
DEPTH TO WATER: Not Encountered	ELEVATION: -
	TOTAL DEPTH: 36 ft.
LOGGED BY: J. Knight	DATE STARTED: 4/8/96
	DATE COMPLETED: 4/8/96

SAMPLES: Driven	SAMPLES: Recovered	SAMPLES: Collected	Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
								Concrete, 4"
			4.7	5		CL		Silty CLAY: dark brown, moist, medium plasticity
			5.2	10		ML		Sandy SILT: brown, very fine sand, slightly moist, trace of clay
			5.5	15		ML		dry, no clay
			6.1	20		ML		slightly moist
			6.3	25		ML		
			6.0	30		ML		Clayey SILT: dark brown, slightly moist, some very fine sand
			5.8	35		ML		brown, some sandy lenses
				40				Boring Completed at 36 feet.

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Outside northeast corner of Building 67	Boring Name: 8
DRILLING COMPANY: Maness	DRILLER: Pete
DRILLING METHOD (S): Geoprobe	DRILL BIT (S) SIZE: 2 in.
DEPTH TO WATER: Not Encountered	Project Name: DAC C-6 Parcel A Phase II
LOGGED BY: J. Knight	Project Number: 954019.01
ELEVATION:	TOTAL DEPTH: 26 ft.
DATE STARTED: 4/2/96	DATE COMPLETED: 4/2/96

SAMPLES: Driven	SAMPLES: Recovered	SAMPLES: Collected	SAMPLES: Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
								Concrete, 6"
				5		SM		Silty SAND: dark brown, very fine to fine, moist, with lenses of medium sand
				10		ML		Clayey SILT: dark brown, very moist, trace of medium to coarse sand
				15		ML		Sandy SILT: brown, very fine to fine, moist, with pods of dry gray clay
				20		ML		
				25		ML		slightly moist, some clay
				30				**Boring Completed at 26 feet.**
				35				
				40				

BOE-C6-0107403

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Northeast corner of Building 67	Boring Name: 11A
DRILLING COMPANY: Maness / DRILLER: Pete	Project Name: DAC C-6 Parcel A Phase II
DRILLING METHOD (S): Geoprobe / DRILL BIT (S) SIZE: 2 in.	Project Number: 954019.01
DEPTH TO WATER: Not Encountered	ELEVATION: / TOTAL DEPTH: 26 ft.
LOGGED BY: J. Knight	DATE STARTED: 4/4/96 / DATE COMPLETED: 4/4/96

SAMPLES: Driven	Recovered	Collected	Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
								Concrete, 4"
			4.1	5		CL		Silty CLAY: dark brown, moist, low plasticity
			5.1	10		ML		Sandy SILT: brown, very fine to fine, slightly moist
			5.3	15		ML		light brown, some clay, dry, hard
			5.5	20		ML		
			5.4	25		ML		no clay, increasing sand content
				30				**Boring Completed at 26 feet.**
				35				
				40				

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Northeast corner of Building 67	Boring Name: 11B
DRILLING COMPANY: Maness / DRILLER: Pete	Project Name: DAC C-6 Phase II
DRILLING METHOD (S): Geoprobe / DRILL BIT (S) SIZE: 2 in.	Project Number: 954019.01
DEPTH TO WATER: Not Encountered	ELEVATION: / TOTAL DEPTH: 26 ft.
LOGGED BY: J. Knight	DATE STARTED: 4/4/96 / DATE COMPLETED: 4/4/96

SAMPLES: Driven	Recovered	Collected	Head Space Reading	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
								Concrete, 4"
			5.2	5		CL		Silty CLAY: dark brown, slightly moist, medium plasticity
			5.7	10		ML		Clayey SILT: brown, trace of very fine sand, dry, hard
			6.2	15		ML		Sandy SILT: brown, very fine to fine sand, slightly moist
			6.0	20		ML		dry
			6.2	25		ML		some clay, slightly moist
				30				**Boring Completed at 26 feet.**
				35				
				40				

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Adjacent to above ground tanks (building 43)	Boring Name: 12A
DRILLING COMPANY: Maness / DRILLER: Pete	Project Name: DAC C-6 Phase II
DRILLING METHOD (S): Geoprobe / DRILL BIT (S) SIZE: 2 in.	Project Number: 954019.01
DEPTH TO WATER: Not Encountered / ELEVATION:	TOTAL DEPTH: 26 ft.
LOGGED BY: J. Knight / DATE STARTED: 4/5/96	DATE COMPLETED: 4/5/96

SAMPLES: Driven	Recovered	Collected	Head Space Reading	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
				5		ML		Clayey SILT: dark brown to black, moist, some very fine sand
				10		ML		Sandy SILT: brown to black, very fine to fine sand, slightly moist, with clay
				15		ML		brown, moist
				20		ML		no clay
				25		ML		
								Boring Completed at 26 feet.
				30				
				35				
				40				

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Adjacent to above ground tanks (building 43)	Boring Name: 12B
DRILLING COMPANY: Maness / DRILLER: Pete	Project Name: DAC C-6 Parcel A Phase II
DRILLING METHOD (S): Geoprobe / DRILL BIT (S) SIZE: 2 in.	Project Number: 954019.01
DEPTH TO WATER: Not Encountered	ELEVATION: / TOTAL DEPTH: 26 ft.
LOGGED BY: J. Knight	DATE STARTED: 4/5/96 / DATE COMPLETED: 4/5/96

SAMPLES: Driven	Recovered	Collected	Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
			4.7	5		ML		Clayey SILT: dark brown, some very fine to fine sand, trace of fine gravel, moist
			4.9	10		CL		Silty CLAY: dark brown, moist, medium plasticity
			11.5	15		CL		black, strong diesel odor
			6.6	20		ML		Sandy SILT: brown, very fine to fine sand, slightly moist, slight diesel odor
				25		ML		some black clayey lenses with strong odor of diesel
								Boring Completed at 26 feet.
				30				
				35				
				40				

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Adjacent to above ground tanks (building 43)		Boring Name: 12C	
DRILLING COMPANY: Maness	DRILLER: Pete	Project Name: DAC C-6 Parcel A Phase II	
DRILLING METHOD (S): Geoprobe	DRILL BIT (S) SIZE: 2 in.	Project Number: 954019.01	
DEPTH TO WATER: Not Encountered		ELEVATION:	TOTAL DEPTH: 26 ft.
LOGGED BY: J. Knight		DATE STARTED: 4/5/96	DATE COMPLETED: 4/5/96

SAMPLES: Driven	SAMPLES: Recovered	SAMPLES: Collected	SAMPLES: Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
				5		CL		Silty CLAY: dark brown, slightly moist, with organic material
				10		CL		
				15		CL		moist, medium plasticity
				20		ML		Sandy SILT: dark brown, very fine to fine, slightly moist
				25		ML		Clayey SILT: brown, slightly moist, trace of very fine sand
								Boring Completed at 26 feet.
				30				
				35				
				40				

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Building 29		Boring Name: 13A	
DRILLING COMPANY: Maness	DRILLER: Pete	Project Name: DAC C-6 Parcel A Phase II	
DRILLING METHOD (S): Geoprobe	DRILL BIT (S) SIZE: 2 in.	Project Number: 954019.01	
DEPTH TO WATER: Not Encountered		ELEVATION:	TOTAL DEPTH: 26 ft.
LOGGED BY: J. Knight		DATE STARTED: 4/4/96	DATE COMPLETED: 4/4/96

SAMPLES: Driven	SAMPLES: Recovered	SAMPLES: Collected	SAMPLES: Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
								Concrete, 4"
			4.7	5		ML		Clayey SILT: dark brown, trace of very fine sand, slightly moist
			4.9	10		ML		
			5.2	15		ML		Sandy SILT: brown, very fine sand,, slightly moist
			5.6	20		ML		Clayey SILT: brown, slightly moist
			5.6	25		ML		
								Boring Completed at 26 feet.
				30				
				35				
				40				

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Building 29		Boring Name: 13B	
DRILLING COMPANY: Maness	DRILLER: Pete	Project Name: DAC C-6 Parcel A Phase II	
DRILLING METHOD (S): Geoprobe	DRILL BIT (S) SIZE: 2 in.	Project Number: 954019.01	
DEPTH TO WATER: Not Encountered		ELEVATION:	TOTAL DEPTH: 26 ft.
LOGGED BY: J. Knight		DATE STARTED: 4/5/96	DATE COMPLETED: 4/5/96

SAMPLES: Driven	SAMPLES: Recovered	SAMPLES: Collected	SAMPLES: Head Space Reading (mg/l)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
				0				Concrete, 4"
				5		ML		Clayey SILT: mottled light and dark brown, moist
				10		CL		Silty CLAY: dark brown, moist, medium plasticity
				15		ML		Sandy SILT: brown, very fine sand, slightly moist
				20		ML		trace of clay, moist
				25		ML		
				30				**Boring Completed at 26 feet.**
				35				
				40				

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Building 29		Boring Name: 14	
DRILLING COMPANY: Maness	DRILLER: Pete	Project Name: DAC C-6 Parcel A Phase II	
DRILLING METHOD (S): Geoprobe	DRILL BIT (S) SIZE: 2 in.	Project Number: 954019.01	
DEPTH TO WATER: Not Encountered		ELEVATION:	TOTAL DEPTH: 26 ft.
LOGGED BY: J. Knight		DATE STARTED: 4/5/96	DATE COMPLETED: 4/5/96

SAMPLES: Driven	SAMPLES: Recovered	SAMPLES: Collected	SAMPLES: Head Space Readins (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
								Concrete, 18"
			6.5	5		CL		Silty CLAY: dark brown, moist, medium plasticity
			5.5	10		ML		Sandy SILT: brown, very fine sand, some clay, slightly moist
				15		ML		no clay
				20		ML		
				25		ML		Clayey SILT: brown, moist
								Boring Completed at 26 feet.
				30				
				35				
				40				

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Between buildings 29 and 33		Boring Name: 15	
DRILLING COMPANY: Maness	DRILLER: Pete	Project Name: DAC C-6 Parcel A Phase II	
DRILLING METHOD (S): Geoprobe	DRILL BIT (S) SIZE: 2 in.	Project Number: 954019.01	
DEPTH TO WATER: Not Encountered		ELEVATION:	TOTAL DEPTH: 26 ft.
LOGGED BY: J. Knight		DATE STARTED: 4/1/96	DATE COMPLETED: 4/1/96

SAMPLES Driven	SAMPLES Recovered	SAMPLES Collected	Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
								Concrete, 4"
			5.7	5		CL		Silty CLAY: dark brown, moist, some very fine sand
			6.0	10		ML		Sandy SILT: brown, very fine sand, some clay, moist
			5.4	15		ML		very fine to fine sand, no clay
			6.2	20		CL		Silty CLAY: dark brown, moist, micaceous
			6.4	25		ML		Sandy SILT: light brown, very fine sand, moist
								Boring Completed at 26 feet.
				30				
				35				
				40				

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: Building 33		Boring Name: 16	
DRILLING COMPANY: Maness	DRILLER: Pete	Project Name: DAC C-6 Parcel Phase II	
DRILLING METHOD (S): Geoprobe	DRILL BIT (S) SIZE: 2 in.	Project Number: 954019.01	
DEPTH TO WATER: Not Encountered		ELEVATION:	TOTAL DEPTH: 26 ft.
LOGGED BY: J. Knight		DATE STARTED: 4/2/96	DATE COMPLETED: 4/2/96

SAMPLES: Driven	SAMPLES: Recovered	SAMPLES: Collected	SAMPLES: Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
				0				Concrete, 8"
				5		CL		Silty CLAY: dark brown, moist, trace of coarse sand, medium plasticity
				10		CL		brown, slightly moist, low plasticity
				15		ML		Sandy SILT: brown, very fine to fine, moist
				20		ML		Clayey SILT: brown, moist, trace of very fine sand
				25		ML		Sandy SILT: brown, very fine sand, trace of clay, moist
				30				**Boring Completed at 26 feet.**
				35				
				40				

Boring Log

Kennedy/Jenks Consultants

BORING LOCATION: North of building 36		Boring Name: 17	
DRILLING COMPANY: Maness	DRILLER: Pete	Project Name: DAC C-6 Parcel A Phase II	
DRILLING METHOD (S): Geoprobe	DRILL BIT (S) SIZE: 2 in.	Project Number: 954019.01	
DEPTH TO WATER: Not Encountered		ELEVATION:	TOTAL DEPTH: 26 ft.
LOGGED BY: J. Knight		DATE STARTED: 4/1/96	DATE COMPLETED: 4/1/96

SAMPLES: Driven	SAMPLES: Recovered	SAMPLES: Collected	SAMPLES: Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS
								Asphalt, 2" Concrete, 20"
			6.9	5		ML		Sandy SILT: brown, very fine, slightly moist, some clay
			6.3	10		ML		
			6.1	15		ML		moist
			6.2	20		ML		increasing sand content, very fine to fine, with dark brown clayey lenses
			5.8	25		ML		
								Boring Completed at 26 feet.
				30				
				35				
				40				